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PERSONAL

Mr. A. W. Starr has been appointed Superintendent of Erection for the Pittsburg Bridge Co., of Pittsburg, Pa.

Mr. Charles Bradley, of Essex county, has been elected State Director of the Railroads and Canals of New Jersey.

Mr. Frank McNeill, of Wilmington, N. C., has been elected Chairman of the Railroad Commission of North Carolina.

Messrs. Bryan & Humphrey, consulting engineers of St. Louis, Mo., have moved their offices to 703 Lincoln Trust Bldg.

Mr. Douglas Cornell, formerly of Troy, N. Y., has been appointed Structural Engineer in the Bureau of Buildings of Buffalo, N. Y.

Mr. James L. Tighe, Engineer of the Holyoke Water Department of Holyoke, Mass., has been appointed City Engineer to succeed Mr. John J. Kirkpatrick.

Dr. Cabell Whitehead, Assayer of the United States Mint, has been appointed Director-General of Industries in the service of the Turkish Government.

Mr. L. B. Stillwell, of the Niagara Falls Power Co., of Niagara Falls, N. Y., has been appointed Consulting Engineer of the Manhattan Ry. Co., of New York city.

Mr. J. T. Norton, M. Am. Soc. C. E., of the engineering department of the Mexican Central Ry., was married March 7 to Miss Zilpha S. Bedford, at Thomastown, La.

Mr. L. C. Weir has been elected President and General Manager of the Weir Frog Co., of Cincinnati, O., to succeed Mr. Frederic C. Weir, whose death was noted in our last issue.

Maj. E. W. Van Court Lucas, U. S. Engineer Corps, has been appointed engineer in charge of the Wilmington, N. C., Engineering District, to succeed Capt. W. E. Craighill, who has been transferred to the department of the District of Columbia.

Mr. G. R. Henderson has resigned as Mechanical Engineer of the Norfolk & Western Ry. to accept an official position with the Schenectady Locomotive Works, of Schenectady, N. Y.,

Mr. Chas. L. Parmelee has resigned his position as Assistant Engineer to the Board of Trustees, Commissioners of Water-Works, of Cincinnati, O., to accept the position of Chief Engineer of the Continental Filter Co., with offices at 35 Wall St., New York city.

Mr. Benjamin F. Thomas, M. Am. Soc. C. E., Assistant U. S. Engineer, has been transferred from Mahan, Pa., to Ashland, Ky., to take charge of the surveys and construction of locks and movable dams on the Big Sandy River in West Virginia and Kentucky.

Mr. William T. Manning, M. Am. Soc. C. E., of Baltimore, Md., has resigned his position as Chief Engineer of the Baltimore & Ohio R. R. Maj. P. H. Irwin was appointed Acting Chief Engineer, with offices at Mount Royal Station, Baltimore. Mr. Daniel Willard was appointed Assistant General Manager in Charge of Maintenance of Way Department East of the Ohio River.

Dr. J. Emile Blomen has been appointed Chemist and Superintendent of the Nitro Powder Co., of Kingston, N. Y., to succeed Mr. David L. Wildrick, resigned. He is a graduate of the Stockholm Atheneum and of the Military Academy of Carlberg, Sweden. From 1889 to 1891 he was Chemist of the American Forcite Powder Co., and at present is the Chief Chemist of the Laflin & Rand Powder Co.

Maj. Geo. B. Burbank, Chief Engineer of the York Haven Paper Co., and the York Haven Water & Water Power Co., and formerly Chief Engineer for the Cataract Construction Co., sailed for Porto Rico on March 11. He is said to represent private capitalists who are conducting an investigation as to the possibilities in the line of water-power development and other industries, to be carried on in connection therewith in Porto Rico.

OBITUARY.

Mr. Rollin M. Squire, former Commissioner of Public Works, New York city, died in that city, March 12, aged 63.

M. Secretan, founder of the Société des Métaux, and Chief Agent of the famous copper ring of 1888, died in Paris, March 12.

Mr. Geo. E. Batchelder, Water Registrar of Worcester, Mass., and Treasurer of the New England Water-Works Association, died March 12, at the age of 63 years.

Mr. Andrew S. Fowle, who died in Newark, N. J., March 11, aged 78, was one of the most skillful machinists and tool makers in this country, and the maker of the first geometrical lathe used by the National Bureau of Engraving and Printing. He was associated with Seth Boyden and Cyrus Durand in their experiments with aluminum and its alloys.

Chief Engineer Robt. R. Leitch, U.S.N., died in Brooklyn, N. Y., on March 13. He was born in Baltimore, Md., in 1854, and was appointed to the Naval Academy from Maryland, from which he graduated at the head of his class in October, 1871. He was promoted to be Second Assistant Engineer in January, 1874; Assistant Engineer in February, 1874; and Passed Assistant Engineer in January, 1879. He became Chief Engineer in September, 1894, and in February, 1896, he was retired on account of ill-health, with the relative rank of Lieutenant-Commander. When the Spanish War broke out, he, with some other retired officers, was assigned to special duty, being sent as Chief Engineer to the Pensacola Navy Yard.

Mr. Robert B. Dashiell, Assistant Naval Constructor, U. S. N., died in Washington, D. C., on March 8, aged 38 years. Mr. Dashiell was born in Maryland and was appointed a cadet at the Naval Academy, from Annapolis, on Aug. 5, 1882, and was graduated two years later with one of the most brilliant records in the history of the Academy. He became a Lieutenant, junior grade, on Dec. 26, 1893, and devoting himself to ordnance he soon became an acknowledged expert, and invented the automatic breech-block, now in use on large guns, and a number of other valuable naval appliances. He was selected to instal the naval proving ground at Indian Head; and his exposure to malarial influences while carrying out that project eventually caused his death. On Nov 30, 1895, he was transferred to the Corps of Naval Constructors; devoted himself to dock building, and studied for two years in Europe. Here he also became an expert of high reputation, and his report was made the basis for dock construction in the navy. His death at so early a period in his career will be deeply felt in the service for which he had already done so much.

Mr. Hiram Kimball, M. Am. Soc. M. E., Manager of the Turnbuckle Department of the Cleveland City Forge & Iron Co., Cleveland, O., died at his home in that city, March 9. He was born in Randolph, Vt., in 1845, and after a course in the Columbia Law School, in New York city, he was admitted to practice in New York state and in the United States courts, and in 1880 to practice in the state of Michigan. His chief attention was, however, given to mechanical pursuits, and after an engineering course in Philadelphia, he was employed as an engineer by the late Lyman Holly in the development of the Bessemer process of steel-making in this country. At one time he was also employed in the Edgar Thomson Steel Works and was the inventor of many important and valuable devices used in his own line of work. In 1883 with others he established the Turnbuckle Co. to manufacture a pressed wrought iron open turnbuckle of his own invention. This company having made a contract with the Cleveland City Forge & Iron Co. to manufacture turnbuckles under his patents, Mr. Kimball became the manager of the Turnbuckle Department. He was also connected with a number of other companies, among them the Chapman Jack Screw Co., and he was a member of the American Institute of Mining Engineers and of the Civil Engineers' Club of Cleveland.

Sir Douglas Galton, Hon. M. Inst. C. E., died at London, England, March 10, aged 77 years. The work by which Sir Douglas was best known to American engineers was perhaps his tests of brake-shoe friction, conducted in conjunction with Mr. Geo. Westinghouse, and reported to the Institution of Civil Engineers in a paper read June 13, 1878, but in England his greatest prominence was probably gained in the totally different field of sanitary engineering. He was born in Worcestershire, England, in 1822, was educated at Rugby and at the Royal Military Academy at Woolwich, where he passed the highest examination on record. He received a commission in the Royal Engineers in 1849, and eventually became Inspector of Railroads and Secretary of the Railroad Department of the Board of Trade, in which capacity he made an official visit to the United States in 1856. In 1860 he was appointed Assistant Inspector of Fortifications, and from 1862 to 1870 he was Under Assistant Secretary of State for War. Later he became Director of Public Works and Buildings, and in 1875 he retired. From 1870 to 1895 he was General Secretary of the British Association, and from 1895 to 1896 he was president of that body. He was also a member of the council of the Royal Society, and constructed the Herbert Hospital at Woolwich. He was the author of "Healthy Dwellings" and "Healthy Hospitals," and other works, and was one of the greatest British authorities on all questions of hospital construction, sanitation, ventilation, and the hygienic arrangement of public buildings. Oxford University conferred on him the degree of D. C. L., while he received that of LL. D. from Durham University. Until recently the brake-shoe tests made by Sir Douglas 20 years ago were the most reliable data, if not the only data, upon the subject, and subsequent investigations have tended furthermore to confirm the general character of the results, if not the entire accuracy, of the details then presented.

ENGINEERING SOCIETIES.

COMING TECHNICAL MEETINGS.

ROCHESTER ENGINEERING SOCIETY.
March 17. Secy., John F. Skinner, Reynolds Library Bldg., Rochester, N. Y.
THE DETROIT ENGINEERING SOCIETY.
March 17. Secy., Henry Goldmark, Wayne Co. Savings Bank Bldg., Detroit, Mich.
NORTHWESTERN TRACK AND BRIDGE ASSOCIATION.
March 17. Secy., D. W. Meeker, St. Paul, Minn.
CHICAGO ELECTRICAL ASSOCIATION.
March 17. Secy., J. R. Cravath, 825 Monadnock Block, Chicago, Ill.
ENGINEERS' CLUB OF COLUMBUS.
March 18. Secy., H. M. Gates, 12½ North High St., Columbus, O.
ENGINEERS' CLUB OF PHILADELPHIA.
March 18. "The Fruits of Sanitary Science," Prof. J. B. Johnson. Secy., L. F. Rondinella, 1122 Girard St., Philadelphia, Pa.
ENGINEERS' CLUB OF ST. LOUIS.
March 19. Secy., E. R. Fish, 2401 N. Spring Ave., St. Louis, Mo.
ENGINEERS' CLUB OF MINNEAPOLIS.
March 20. Secy., H. E. Smith, 1620 S.E. 14th St., Minneapolis, Minn.
TECHNICAL CLUB OF OMAHA.
March 20. Secy., J. Harry Lawrie, Omaha, Neb.
ENGINEERS' AND ARCHITECTS' CLUB OF LOUISVILLE.
March 20. Secy., Marshall Morris, 16 Norton Bldg., Louisville, Ky.
FRANKLIN INSTITUTE.
March 21. "The Development of Pneumatic Chemistry," Dr. H. Carrington Bolton. March 22. "The Pressed Steel Industry with Special Reference to Its Application to Rolling Stock," Henrik V. Loss; "Water Power Electric Plants in the United States," B. C. Washington, Jr. Secy., Wm. H. Wahl, 15 South 7th St., Philadelphia, Pa.
WESTERN RAILWAY CLUB.
March 21. Secy., F. M. Whyte, 225 Dearborn St., Chicago, Ill.
ENGINEERS' SOCIETY OF WESTERN PENNSYLVANIA.
March 21. Secy., R. A. Fessenden, 410 Penn Ave., Pittsburg, Pa.
ENGINEERING ASSOCIATION OF THE SOUTH.
March 23. Secy., H. M. Jones, 1000 Broad St., Nashville, Tenn.
CIVIL ENGINEERS' CLUB OF CLEVELAND.
March 28. Secy., Wm. H. Searles, Case Library Bldg., Cleveland.
AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS.
March 29. Secy., Ralph W. Pope, 26 Cortlandt St., New York city.
WISCONSIN ENGINEERS' SOCIETY.
March 30. Annual meeting, Appleton, Wis. Secy., F. J. Harriman, Appleton Wis.
CANADIAN SOCIETY OF CIVIL ENGINEERS.
March 30. Secy., H. C. McLeod, 112 Mansfield St., Montreal, Que.
CIVIL ENGINEERS' SOCIETY OF ST. PAUL.
April 3. Secy., C. L. Annan, City Engineer's Office, St. Paul, Minn.
ENGINEERING SOCIETY OF WESTERN NEW YORK.
April 3. Secy., H. J. March, Library Bldg., Buffalo, N. Y.
WESTERN SOCIETY OF ENGINEERS.
April 5. Secy., N. L. Litten, Monadnock Block, Chicago, Ill.
AMERICAN SOCIETY OF CIVIL ENGINEERS.
April 5. Secy., C. W. Hunt, 220 W. 57th St., New York city.
FOUNDRYMEN'S ASSOCIATION (Philadelphia).
April 5. Secy., Howard Evans, Pier 45, N. Delaware Ave., Philadelphia, Pa.
BROOKLYN INSTITUTE OF ARTS AND SCIENCES.
April 7. Secy., Henry I. Weed, Brooklyn Institute of Arts and Sciences, Brooklyn, N. Y.
TECHNICAL SOCIETY OF THE PACIFIC COAST.
April 7. Secy., O. Von Geldern, 819 Market St., San Francisco, Cal.
MONTANA SOCIETY OF ENGINEERS.
April 8. Helena, Mont. Secy., A. S. Hovey, National Bank Bldg., Helena, Mont.
THE LOUISIANA ENGINEERING SOCIETY.
April 10. Secy., J. F. Coleman, 712 Union St., New Orleans, La.
ENGINEERS' CLUB OF KANSAS CITY.
April 10. Secy., F. W. Tuttle, Baird Bldg., Kansas City, Mo.
DENVER SOCIETY OF CIVIL ENGINEERS.
April 11. Secy., W. B. Lawson, 36 Jacobson Bldg., Denver, Colo.
NORTHWEST RAILWAY CLUB.
April 11. Secy., T. A. Foque, Soo Line, Minneapolis, Minn.
NEW ENGLAND RAILWAY CLUB.
April 11. Secy., Edw. L. Janes, P.O. Box 1158, Boston, Mass.
AMERICAN INSTITUTE OF ARCHITECTS (New York Chapter).
April 12. Secy., Chas. I. Berg, 10 West 23d St., New York city.
AMERICAN RAILWAY ASSOCIATION.
April 12. Detroit, Mich. Secy., W. F. Allen, 24 Park Place.
BROOKLYN ENGINEERS' CLUB.
April 13. Secy., A. J. Provost, Jr., 191 Montague St., Brooklyn, N. Y.
ST. LOUIS RAILWAY CLUB.
April 14. Secy., H. H. Roberts, 511 Commercial Bldg., St. Louis, Mo.
WISCONSIN STATE CHEMICAL ASSOCIATION.
April 14. Secy., I. Ladoff, 154 Knapp St., Milwaukee, Wis.
BOSTON SOCIETY OF CIVIL ENGINEERS.
April 19. Secy., S. E. Tinkham, City Hall, Boston, Mass.
WESTERN FOUNDRYMEN'S ASSOCIATION.
April 19. Secy., B. M. Gardner, 1522 Monadnock Block, Chicago, Ill.
ENGINEERS' CLUB OF CINCINNATI.
April 20. Secy., J. F. Wilson, P.O.Box 333, Cincinnati, O.
SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.
April 20. Secy., F. A. Charpiot, P.O.Box 13, Savannah, Ga.
NEW YORK RAILROAD CLUB.
April 20. Secy., W. W. Wheatley, 168 Montague St., Brooklyn, N. Y.

BROOKLYN ENGINEERS' CLUB.—A regular meeting of this club was held on March 9. The paper of the evening was entitled "Electrolysis: An Unsolved Municipal Problem," by H. S. Wynkoop.

A. J. Provost, Jr., Secy.

NEW ENGLAND ASSOCIATION OF GAS ENGINEERS.—At the last annual meeting, held at Boston, Mass., Feb. 16, the following officers were elected for the ensuing year: Pres., Walter R. Addicks, Boston, Mass.; First Vice-Pres., W. A. Learned, Newton, Mass.; Second Vice-Pres., Wm. E. McKay, Boston, Mass.; Secy.-Treas., N. W. Gifford, New Bedford, Mass. Directors: J. A. Coffin, Gloucester, Mass.; F. S. Richardson, North Adams, Mass.; A. J. Purinton, Waterbury, Conn.; Wm. McGregor, Pawtucket, R. I.; W. G. Africa, Manchester, N. H.

MICHIGAN GAS ASSOCIATION.—The sixth annual meeting of this association was held at Lansing, Mich., on Feb. 23. Papers were presented on "The Importance of Boiler Settings in Water Gas Plants," Jno. R. Lynn; "A Desirable Increase and Its Source," S. E. Wolf; "Pitch in Hydraulic Mains," B. O. Tippey; "The Use of Gas for Purposes Other than Fuel," Henry W. Douglas; "How We Obtain Our Patrons," A. L. Zwisler. Detroit was selected as the next place of meeting, and the following officers were elected for 1899: Pres., L. E. Walker, Lansing, Mich.; Vice-Pres., J. J. Howden, Muskegon, Mich.; Secy.-Treas., H. H. Hyde, Saginaw, Mich.

FRANKLIN INSTITUTE.—The Mining and Metallurgical section held a meeting on March 8, at which Prof. W. H. Burr, of Columbia University, New York, read a paper on "Some Features in the Structural Design of Buildings." This paper dealt particularly with the engineering features of the modern office building of the "sky-scraper" type. Among other problems discussed, were those of the forms and methods of foundations, the various types and forms of columns and beams used in connection with these structures and their relative merits. The systems of wind-bracing were minutely discussed, and particular attention was paid to the methods of rendering such structures fireproof. The speaker presented an abstract of some recent experiments made by the Fire Underwriters of New York, on fire-resisting qualities of cast-iron and steel columns. Several instructive instances of failure, more especially in cast-iron columns, were noted by the speaker. A noteworthy point in connection with the paper, was his extended reference to the use of cast-iron columns, which the speaker deemed unqualifiedly as unfit to be used in building construction. The paper was profusely illustrated with lantern views.

A meeting of the Mechanical Engineering section was held on March 9 at which Mr. Wm. L. Saunders, of New York city, presented a paper on the "Mechanical Application of Compressed Air." This paper reviewed the history of the subject from the time of Hero of Alexandria, to the present. In the discussion which followed "Liquid Air," as a material for operating motors was mentioned, and Mr. Dickerson, who had assisted Mr. Tripler in his experiments with liquid air motors, stated that a recent article in one of the popular magazines had quoted Mr. Tripler incorrectly in referring to the production of ten quarts of liquid air with an expenditure of only three quarts.

The March-April program of meetings of the Institute is as follows: March 21, "The Development of Pneumatic Chemistry," Dr. H. C. Bolton; March 22, "Observations on the Physical History of the Klondike Gold Region, with Incidents of a Recent Journey Thither," Prof. Angelo Heilprin; March 28, "Railroad Meeting;" April 12, "Riddles Wrought in Iron and Steel," Paul Kreuzpointner.

NEW PUBLICATIONS.

A SHORT HISTORY OF FINANCES OF THE CHICAGO GREAT WESTERN RY. CO. A Western Trunk Line Railway Without a Mortgage.—By A. B. Stickney, President. Paper: 8vo.; pp. 15.

The Chicago Great Western Ry. is a second-class trunk line, whose terminals are at Chicago, St. Paul and Kansas City, and aggregates 930 miles in all. It came into existence in 1892 as a reorganization of the Chicago, St. Paul & Kansas City Ry. The pamphlet opens with the statement that this is the only railway company in the United States which has never issued mortgage bonds and whose line is unencumbered by a mortgage. At the time of the reorganization the existing mortgage bonds were exchanged for debenture stock and preferred stock, but in spite of the above statement it appears that there is a mortgage lien of $2,832,000 upon the property, which, however, it is stated, the company will redeem during 1899, though it does not mature until 1934. The capitalization is $59,344,256, and the capital stock is now divided into 4% debenture stock, and 5% and 4% preferred stock and common stock. Debenture stock is a favorite form of security in England, but had never before been introduced into this country. Mr. Stickney discusses the safety of the company's stock, and refers to the work of reducing grades, renewing bridges, building new shops and making other permanent improvements, which has been carried on since 1895. The cost of this work so far aggregates $4,282,549, or an average of $5,068 per mile of line owned.

TRADE PUBLICATIONS.

(The standard sizes for pamphlets and trade catalogues recommended by all the principal engineering societies of the United States are: 3 1-2 x 6 ins. and 9 x 12 ins.)

COAL-WASHING MACHINERY.—The Jeffrey Mfg. Co., Columbus, O. Paper; 9¼ x 6¼ ins.; pp. 48.

The company's specialty in this line is the Robinson washing plant, which consists mainly of a steel conical tank with a vertical rotating shaft fitted with arms, a water-jacket being fitted at the base of the core. The coal is carried up by the current and out at the overflow, while the stone, etc., settles in the lower chambers.

BUILDING STONE.—The Cleveland Stone Co., Cleveland, Ohio. Paper; 10 x 7½ ins.; pp. 12; illustrated.

These "Short Sermons on Stone" are quaintly illustrated and very handsomely printed and give general advice as to the selection of stone for all structural purposes.

METAL PAINTS.—The Sherwin-Williams Co., Paint and Color Makers, Cleveland, O. Paper; 7 x 4 ins.; pp. 9; illustrated.

The paints described in this pamphlet are intended for the preservation of iron and steel surfaces, with especial attention paid to the features of economy in first cost and durability.

WATER-TUBE BOILER CLEANER.—Chicago Boiler Cleaner Co., Chicago, Ill. Paper; 6 x 3¼ ins.; pp. 8.

This device consists of revolving cutters driven by a little water motor at their base, the device being connected to a rubber hose. Its action carries it through the tube, whether straight or curved, drawing the hose after it.

BOLT AND NUT MACHINERY.—The Acme Machinery Co., Cleveland, O. Pamph.; 9 x 6 ins.; pp. 118; illustrated.

This pamphlet illustrates and describes the various forms of bolt cutters, nut tappers and forging machines manufactured by this company and listed under the trade name of "Acme."

CREOSOTED WOOD CONDUITS.—The Michigan Pipe Co., Bay City, Mich. Pamph.; 3½ x 6¼ ins.; pp. 12; illustrated.

This pamphlet calls attention to wood tubing for conduit, wood paving blocks, railway ties and cross-arms which have been treated by the preserving process of the company named.

GASOLINE ENGINES FOR YACHTS.—Western Gas Engine Co., Mishawaka, Ind. Paper; 9 x 6 ins.; pp. 28.

This marine gas engine is of the vertical inverted type, with one or two cylinders, and drives a reversing propeller. The fuel consumption is said to be about one gallon of gasoline per HP. in ten hours. Stern wheels may be driven by belting from the engine.

WROUGHT-RIM PULLEYS.—Medart Patent Pulley Co., St. Louis, Mo. Pamph.; 4¼ x 6 ins.; pp. 95; illustrated.

This little pamphlet, in addition to listing a very complete line of wrought-rim and cast-iron pulleys includes lists of friction clutches, hangers, couplings and other fittings for shafting and transmission work.

AIR AND GAS COMPRESSORS.—The Lane & Bodley Co., Cincinnati, O. Paper; 9 x 6 ins.; pp. 8.

The company's "Bennett-Corliss" compressor consists of its "Columbian" engine with the compressing cylinder placed tandem with the steam cylinder. Various combinations are made for straight, duplex, a cross-compound compressor and simple or compound condensing or non-condensing engines.

ARCHITECTS AND ENGINEERS ELECTRICAL BULLETIN.—Sprague Electric Co., New York city. Pamph.; 9 x 12 ins.; pp. 52; illustrated.

This is a very attractive pamphlet containing eleven articles describing the applications of apparatus manufactured by the Sprague company and several excellent illustrations of large New York office buildings in which Sprague electric elevators are used.

CORLISS AND SLIDE VALVE ENGINES.—The Lane & Bodley Co., Cincinnati, O. Paper; 9 x 6 ins.; pp. 72; 9 x 6 ins.; pp. 14; illustrated.

In the larger of these pamphlets the "Columbian" Corliss engine is described and illustrated in detail, and there are particulars of a double-eccentric Corliss valve gear and other specialties. There are also instructions for the erection and adjustment of the engines. The smaller pamphlet describes the company's slide valve engines.

HYDRAULIC ELEVATING AND EXCAVATING PLANTS.—The Risdon Iron Works, San Francisco, Cal. Paper; 6¾ x 10¼ ins.; pp. 48; illustrated.

The Evans elevator is of the suction type for draining pits, elevating gravel, etc., and numerous half-tone engravings are given to show its application at different mining works. Hydraulic giants for jet excavation, flumes, and other appliances are shown, and there are also tables of flow through nozzles and instructions for the measurement of water.

GRAPHITE PAINTS.—Detroit Graphite Manufacturing Co., Detroit, Mich. Paper; 9 x 6 ins.; pp. 106; illustrated.

The purpose of this publication is to show by handsome photogravures where the graphite paints made by this company are already in use. In a general way it describes the character of the paint and the methods of its manufacture. The list of illustrations includes a wide range of buildings, bridges, battleships, gas holders, roofs and trucks of passenger cars, steamships, piers, etc.

STEEL-PLATE FANS.—B. F. Sturtevant Co., Boston, Mass. Pamph.; 6½ x 9 ins.; pp. 132; illustrated.

In this pamphlet a large number of disk and special wheel fans employing sheet steel blades are illustrated. Tables of dimensions are also given in all cases. In the majority of cases these fans are designed to be operated by direct-connected Sturtevant engines, but belted types and those operated by direct-connected electric motors are also included. The pamphlet ends with a description of the various instruments used for testing fan systems and several tables of use to those designing ventilating, forced-draft or air-transmission systems.

STRUCTURAL IRON WORK.—Schreiber & Sons Co. Iron Works, Cincinnati, O. Paper; 14¼ x 11¼ ins.; pp. 30; illustrated.

This firm makes a specialty of structural and ornamental iron work, and this publication is an album of half-tone engravings of some of the work done. They include the iron dome of the government building at Denver, the amphitheatre and pavilion at Ludlow, Ky., the grand stand at Oakley, O.; the armory and gymnasium of the Ohio State University, the Terra Haute train shed, and a number of mill and factory buildings, freight sheds, conservatories, standpipes, and other structures.

PRESSES, DROP HAMMERS AND SPECIAL MACHINERY.—E. W. Bliss Co., Brooklyn, N. Y. Catalogue; 5½ x 7¼ ins.; pp. 509; illustrated.

This is a very complete and well-printed catalogue of the full line of presses, drop hammers, stamps, spinning lathes and other special machinery manufactured by the company named. A valuable feature is the outline drawings of the products of many of the special machines, and of the "outfits" for making tin cans, boxes and special stampings. These show the possibilities of presses and stamping machines, so that those not thoroughly conversant with these labor-saving machines can realize their value.

IRON AND STEEL ROOFING.—The Garry Iron & Steel Roofing Co., Cleveland, O. Paper; 9 x 6 ins.; pp. 104; illustrated.

This catalogue and price list illustrates and describes a great variety of both flat and corrugated roofing and siding. It includes full instructions for laying the metal, capping roofs, fitting around chimneys, etc. Among other forms we have "rock-face brick and stone sidings" pressed from sheet steel or copper, and painted or galvanized. Detailed rules for measuring and directions for ordering the material wanted are given. The list includes metallic shingles, doors and shutters, moldings, roof gutters, and a variety of small useful or ornamental details entering into work of this character.

THE WESTINGHOUSE AIR BRAKE CO.—Bulletins Nos. 1, 2 and 3; paper; 6 x 9 ins; each 2 to 4 pp. Address the Westinghouse Air Brake Co., Pittsburg, Pa.

The titles of these bulletins are: No. 1, "Maintenance of Air Brake Pumps." No. 2, "Testing Air Gages, Pump Governors and Reducing Valves." No. 3, "Capacity and Location of Main Reservoir and Locomotives." These bulletins are designed for the instruction of employees who have to operate, maintain and repair air brake apparatus, and are sent free to any one on application. In bulletin No. 1 the proper method of operating and caring for brake-pumps is described, and the use of the 9½-in. pump instead of the 8-in. is recommended for freight service or heavy passenger service. In Bulletin No. 3 it is recommended that larger main reservoirs shall be used and the practice of having two main reservoirs is commended, thus obtaining an air storage capacity of 40,000 to 50,000 cu. m.'s in place of 16,000 to 20,000 cu. m.'s, which has heretofore been the rule.

CONSTRUCTION NEWS.

CONDENSED LIST OF CONTRACTS PENDING WITH DATE OF OPENING BIDS.

Bids to be opened.	Work. Place.	See Eng. News.
Mar. 16.	School building, New York, N. Y.	Mar. 9
Mar. 16.	Engineers' supplies, New York	Mar. 9
Mar. 16.	Grading, Louisville, Ky.	Mar. 9
Mar. 16.	School building, Weehawken, N. J.	Mar. 9
Mar. 16.	Bicycle path, St. Paul, Minn.	Mar. 16
Mar. 17.	Broken trap rock, Yonkers, N. Y.	Mar. 16
Mar. 17.	Asphalt paving, Grand Rapids, Mich.	Mar. 9
Mar. 17.	Paving, Saginaw, Mich.	Mar. 9
Mar. 18.	Park work, New Orleans, La.	Mar. 9
Mar. 18.	Electric railway, Pernambuco, Brazil	Mar. 2
Mar. 18.	Irrigation pipe line, Monrovia, Cal.	Mar. 16
Mar. 18.	Artesian wells, Palo Alto, Cal.	Mar. 16
Mar. 19.	Stave pipe, Fairhaven, Wash.	Mar. 9
Mar. 20.	Hospital building work, New York, N. Y.	Mar. 16
Mar. 20.	Removing street soil, Albany, N. Y.	Mar. 16
Mar. 20.	Pumping station, Burlington, Ia.	Mar. 16
Mar. 20.	Water pipe, Liverpool, N. S.	Mar. 16
Mar. 20.	Paving, sewers, etc., Albany, N. Y.	Mar. 16
Mar. 20.	Paving, Paterson, N. J.	Mar. 16
Mar. 20.	Asphalt paving, Benton Harbor, Mich.	Mar. 16
Mar. 20.	Bank gravel and sand, Boston, Mass.	Mar. 16
Mar. 20.	Asphalt paving, St. Paul, Minn.	Mar. 16
Mar. 20.	Asphalt paving, Joliet, Ill.	Mar. 16
Mar. 20.	Electric lighting, San Diego, Cal.	Mar. 2
Mar. 20.	Building, Iowa City, Ia.	Feb. 23
Mar. 20.	School building, Uptergrove, Ont.	Mar. 9
Mar. 20.	Supplies, Brantford, Ont.	Mar. 9
Mar. 20.	Sidewalks, Des Moines, Ia.	Mar. 9
Mar. 21.	Sewer system, Clinton, Mass.	Mar. 9
	Advertised, Eng. News, Mar. 9 and 16.	
Mar. 21.	School building work, New York, N. Y.	Mar. 9
Mar. 21.	Pumping engines (3), St. Louis, Mo.	Feb. 23
Mar. 21.	Bridge, Bellefontaine, O.	Mar. 2
Mar. 21.	Gas lighting, Binghamton, N. Y.	Mar. 2
	Advertised, Engineering News, Mar. 2.	
Mar. 21.	Hospital building, Pittsburg, Pa.	Mar. 16
Mar. 21.	School building, Baltimore, Md.	Mar. 16
Mar. 21.	Brick arch bridge, Cumberland, Md.	Mar. 16
Mar. 21.	Dredging, Buffalo, N. Y.	Mar. 16
Mar. 21.	Viaducts (2), Buffalo, N. Y.	Mar. 16
Mar. 21.	Pipe sewers, Mount Vernon, N. Y.	Mar. 16
Mar. 21.	Pipe, hydrants, lead, etc., Pittsburg, Pa.	Mar. 16
Mar. 21.	Paving, etc., Buffalo, N. Y.	Mar. 16
Mar. 21.	Paving, Marion, Ind.	Mar. 16
Mar. 21.	Beach gravel, Boston, Mass.	Mar. 16
Mar. 21.	Asphalt and brick paving, Sioux City, Ia.	Mar. 16
Mar. 22.	Bridge work, St. Joseph, Mo.	Mar. 16
Mar. 22.	Brick sewer, Buffalo, N. Y.	Mar. 16
Mar. 22.	Electric plant, Herkimer, N. Y.	Mar. 16
Mar. 22.	Asphalt plant, Winnipeg, Man.	Mar. 2
Mar. 22.	Court house, Dallas, Ore.	Mar. 2
Mar. 23.	Mooring stones, Portland, Me.	Mar. 2
Mar. 23.	Water-works extension, Bloomington, Ind.	
	Advertised, Engineering News, Mar. 2.	
Mar. 23.	Water-works, Windsor, N. Y.	Mar. 9
	Advertised, Engineering News, Mar. 9.	
Mar. 23.	Steel vault, Montgomery, Tex.	Mar. 9
Mar. 23.	Lumber, etc., New York, N. Y.	Mar. 9
Mar. 23.	Water mains, Brooklyn, N. Y.	Mar. 9
Mar. 23.	Sprinkling wagons, New York, N. Y.	Mar. 16
Mar. 23.	Hydrants, cocks, boxes, etc., New York	Mar. 16
Mar. 23.	Steam plant, New York, N. Y.	Mar. 16
Mar. 23.	School building, New York, N. Y.	Mar. 16
Mar. 23.	School building, Monticello, Ind.	Mar. 16
Mar. 23.	Retaining walls, Oneida, N. Y.	Mar. 16
	Advertised, Engineering News, Mar. 16.	

Mar. 23. Plate-girder bridge, Buffalo, N. Y. .... Mar. 16
Advertised, Engineering News, Mar. 16.
Mar. 23. Road roller (12 tons), New York, N. Y. .... Mar. 16
Mar. 23. Macadamizing, Monon, Ind. .... Mar. 16
Mar. 24. Electric plant, Charlotte Harbor, N. Y. .. Mar. 16
Mar. 24. Bridge work, Boston, Mass. .... Mar. 16
Advertised, Engineering News, Mar. 16.
Mar. 24. Gun forgings, Washington, D. C. .... Mar. 16
Mar. 24. Sewer system, Cienfuegos, Cuba .... Mar. 9
Advertised, Engineering News, Mar. 9.
Mar. 24. Water-works, Cienfuegos, Cuba .... Mar. 9
Advertised, Engineering News, Mar. 9.
Mar. 24. Street grading, etc., St. Louis, Mo. ...... Mar. 9
Mar. 24. Sewers, Pontiac, Mich. .... Mar. 2
Advertised, Engineering News, Mar. 2.
Mar. 25. Pumping engines and boilers, Bristol, Eng. Mar. 9
Mar. 25. School building, Cleveland, O. .... Mar. 9
Mar. 25. Plate-girder bridge, North Adams, Mass. .. Mar. 9
Advertised, Eng. News, Mar. 9 and 16.
Mar. 25. Equipment electric commission, Baltimore. Mar. 16
Mar. 25. Sewerage system, Prescott, Ont. .... Mar. 16
Mar. 25. Water-works, Prescott, Ont. .... Mar. 16
Mar. 27. Water pipe, etc., Laporte, Ind. .... Mar. 16
Advertised, Engineering News, Mar. 16.
Mar. 27. School building, New York, N. Y. .... Mar. 16
Mar. 27. Bank building, Winnipeg, Man. .... Mar. 16
Mar. 27. Electric plant, Santa Fe, N. Mex. .... Mar. 9
Mar. 27. Sewer and water pipe, Lockport, N. Y. .... Mar. 9
Mar. 27. Asphalt paving, Toledo, O. .... Mar. 2
Mar. 27. Court house, Leesville, La. .... Jan. 26
Mar. 27. Paving brick, Nebraska City, Neb. .... Mar. 16
Mar. 28. Dredging and dockwork, Chicago, Ill. ..... Mar. 2
Advertised, Eng. News, Mar. 2 to 23.
Mar. 28. Docks, Chicago, Ill. .... Mar. 2
Advertised, Eng. News, Mar. 2 to 23.
Mar. 28. Water-works, Darlington, Okla. .... Mar. 9
Mar. 28. Pipe sewers, Kearney, N. J. .... Mar. 9
Mar. 29. Water-works pump, South Bend, Ind. .... Mar. 9
Mar. 29. Sidewalks, Sandusky, O. .... Mar. 16
Mar. 30. Garbage disposal, Providence, R. I. ...... Mar. 16
Mar. 30. Public building work, San Francisco, Cal. . Mar. 2
Advertised, Eng. News, Mar. 2 and 9.
Mar. 30. Jail building, Uvalde, Tex. .... Mar. 9
Mar. 31. Electric plant, Springfield, N. S. .... Mar. 9
Mar. 31. Garbage disposal, Rochester, N. Y. .... Mar. 2
Mar. 31. Telephone concessions, Shanghai, China. . Nov. 24
Advertised, Eng. News, Nov. 17 to Dec. 8.
Mar. 31. Bridge work, Minneapolis, Minn. .... Mar. 16
Mar. 31. Sewers, East Cleveland, O. .... Mar. 16
Mar. 31. Sewers, Minneapolis, Minn. .... Mar. 16
Mar. 31. Water pipe, etc. (460 tons), Minneapolis ... Mar. 16
Mar. 31. Paving, Bellefontaine, O. .... Mar. 16
Apr. 1. W.-wks and electric plant, Cullman, Ala. . Mar. 9
Apr. 1. Electric plant, Palo Alto, Cal. .... Mar. 16
Apr. 1. Court house addition, Louisville, Ky. ..... Mar. 16
Apr. 1. Water-works, Mankato, Kan. .... Mar. 16
Apr. 1. Turnpike bonds, Jackson, O. .... Mar. 16
Apr. 1. Light house, Romer Shoal, N. Y. H. ...... Mar. 16
Advertised, Eng. News, Mar. 16 and 23.
Apr. 1. Viaduct substructure, St. Joseph, Mo. .... Jan. 5
Apr. 1. Opera house, Columbus, Ga. .... Jan. 19
Apr. 1. Hydraulic dredge, Rock Island, Ill. .... Mar. 9
Advertised, Eng. News, Mar. 9 to 30.
Apr. 1. Brick and pipe sewers, etc., Havana, Ill. .. Mar. 9
Advertised, Engineering News, Mar. 9.
Apr. 1. Fire hydrants, Washington, D. C. .... Mar. 9
Advertised, Engineering News, Mar. 9.
Apr. 1. Water-works, Goldhill, Ore. .... Mar. 9
Apr. 1. Bridges, Columbus, O. .... Mar. 9
Apr. 3. School building, Wells, Minn. .... Mar. 9
Apr. 3. Stop cocks, pipe, etc., Winnipeg, Man. .. Mar. 9
Apr. 3. Pumps (2), Winnipeg, Man. .... Feb. 9
Apr. 3. Market plans, Toronto, Ont. .... Mar. 2
Apr. 3. Brick and pipe sewers, Whiting, Ind. .... Mar. 16
Apr. 3. Pipe sewers, Plainfield, N. J. .... Mar. 16
Advertised, Engineering News, Mar. 16.
Apr. 3. School building, Lakota, N. Dak. .... Mar. 16
Apr. 3. Bridge, Kalama, Wash. .... Mar. 16
Apr. 3. Steam launch, Boston, Mass. .... Mar. 16
Apr. 4. Electric railway, Madrid, Spain. .... Mar. 2
Apr. 4. Electric plant, New York, N. Y. .... Mar. 9
Apr. 4. City prison work, New York, N. Y. ...... Mar. 9
Apr. 4. Electric plant, Picton, Ont. .... Mar. 16
Apr. 5. Excavating, Vicksburg, Miss. .... Mar. 9
Advertised, Eng. News, Mar. 9 to 30.
Apr. 5. Steel bridge, Columbus, O. .... Mar. 16
Apr. 5. Asphalt and wagons, Winnipeg, Man. .... Mar. 16
Apr. 6. Submerged sewer, New London, Conn. .... Mar. 16
Advertised, Engineering News, Mar. 16.
Apr. 6. County roads, Ukiah, Cal. .... Mar. 16
Apr. 6. Pipe sewers, New London, Conn. .... Mar. 16
Advertised, Engineering News, Mar. 16.
Apr. 6. Dredging boat, Sabine Pass, Tex. .... Feb. 9
Apr. 7. Ditch and bridge bonds, Bellefontaine, O. . Mar. 16
Apr. 7. Bridge at Center St., Cleveland, O. .... Mar. 16
Apr. 7. Gas lighting, Cleveland, O. .... Mar. 16
Apr. 8. Water pipe, etc., Butte, Mont. .... Mar. 16
Advertised, Engineering News, Mar. 16.
Apr. 8. Valves, castings, etc., Butte, Mont. .... Mar. 16
Advertised, Engineering News, Mar. 16.
Apr. 8. Extending electric plant, Norfolk, Va. .... Mar. 16
Apr. 8. Artesian well, Fort McPherson, Ga. .... Mar. 16
Apr. 10. Bridges (2), Chicago, Ill. .... Feb. 23
Advertised, Engineering News, Feb. 23.
Apr. 10. Ditch, piling and rip-rap, Fremont, Neb. . Mar. 2
Apr. 10. Arc lights, Dayton, O. .... Mar. 2
Advertised, Eng. News, Mar. 2 and 9.
Apr. 10. Public building work, Kansas City, Mo. . Mar. 16
Apr. 10. Boilers for w.-wks (4), Montgomery, Ala. Mar. 16
Advertised, Eng. News, Mar. 16 to Apr. 6.
Apr. 10. Water tank, Fort Mojave, Ariz. .... Mar. 16
Apr. 11. Pumping engines (2), Philadelphia, Pa. ... Mar. 9
Apr. 11. Paving, etc., Huntington, Ind. .... Mar. 9
Apr. 12. Maps and plats, Pomeroy, O. .... Mar. 9
Apr. 12. Dam and weirs, Cincinnati, O. .... Mar. 16
Advertised, Eng. News, Mar. 16 to Apr. 6.
Apr. 12. Additions water-works, Seattle, Wash. .. Mar. 16
Advertised, Eng. News, Mar. 16 and 23.
Apr. 14. Heating, etc., Louisville, Ky. .... Mar. 16
Apr. 14. Hall building, Bradford, England. .... Jan. 19
Apr. 15. Sewer material, etc., Honolulu, H. I. ..... Feb. 23
Advertised, Eng. News, Feb. 23 and Mar. 2.
Apr. 15. Hospital building, Birmingham, Ala. ..... Mar. 9
Apr. 15. Water-works, Forestport, N. Y. .... Mar. 9
Apr. 15. Branch sewer, Sandusky, O. .... Mar. 16
Apr. 15. Sewers, etc., Carrollton, Mo. .... Mar. 16
Apr. 15. Water-works, Golden, Colo. .... Mar. 16
Apr. 15. Paving, etc., and bonds, Carrollton, Mo. .. Mar. 16
Apr. 17. Levee (11 miles), West Memphis, Tenn. .. Mar. 16
Advertised, Eng. News, Mar. 16 to Apr. 6.
Apr. 17. Public building work, San Francisco, Cal. . Mar. 16
Apr. 18. Arch culverts, Chicago, Ill. .... Mar. 16
Advertised, Eng. News, Mar. 16 to Apr. 6.
Apr. 28. Brick pvg. and curbing, Bellefontaine, O. . Mar. 16
May 25. Sewer system, Johannesburg, S. Africa .... Mar. 9
June 1. Plans for market, Leeds, England .... Feb. 16
June 30. Electric r'y (23 miles), Shanghai, China. Mar. 2
Advertised, Eng. News, Nov. 17 to Dec. 8.
Oct. 1. Electric street railway, Moscow, Russia. . Mar. 9
No date. Wagon road, Kalispell, Mont. .... Mar. 9
" . Water-wks and light plant, Cullman, Ala. . Mar. 9
" . Excavating, Harvey, Ill. .... Mar. 9
Advertised, Eng. News, Mar. 9 to 23.
No date. Railway, Norfolk, Va. .... Mar. 16
Advertised, Eng. News, Mar. 16 and 23.
" . Pumping plant, Orange, N. J. .... Mar. 16
Advertised, Eng. News, Mar. 16 and 23.
" . Electric plant, etc., Orange, N. J. .... Mar. 16
Advertised, Eng. News, Mar. 16 and 23.
" . Canal work, Raywood, Tex. .... Mar. 16

RAILWAYS.

ALASKA-YUKON RY. & NAVIGATION.—This company was incorporated March 8, with a capital stock of $125,000, to construct a railway from the mouth of the Unalaklik River, on North Sound, to a point at the mouth of the Kattag River, at its juncture with the Yukon River, Alaska. The incorporators are: James Read Girling and Oliver P. Hubbard, St. Michael, Alaska; Joseph V. Clark, Jersey City, N. J.

ATLANTA & DANVILLE.—Bids are asked for the construction of a short branch road from the main line of this railway in North Carolina, as stated in our advertising columns. Chas. O. Haines, Gen. Mgr., Norfolk, Va.

BALTIMORE & OHIO.—This company has recently purched 28,000 tons of 85-lb. steel rails, or enough to relay 870 miles of track. About 8,000 tons are to be laid on the lines west of the Ohio River, and the 20,000 remaining will be used as follows: Philadelphia division, 44 miles; 2d division, 11 miles; 3d division, 13 miles; 4th division, 30 miles; 5th division, 21 miles; Connellsville division, 10 miles; Pittsburg division, 21 miles. Many of the rails that will be taken up are still good enough to be relaid on branches where traffic is not heavy. The Southwestern division, between Parkersburg and St. Louis, will have 40,000 tons of rails to lay this spring.

BIG THREE.—D. C. Willett, Pres., Morganfield, Ky., informs us that this company expects to issue $6,000,000 of 4% 30-year bonds on a cash basis of $400,000. The bonds are to be paid for as the railway is built, in sections of ten miles each, from Texarkana, Ark., to Guthrie, Okla., via Oklahoma City, 400 miles, the entire line to be built within two years from date. C. D. G. Mack, 912 Winthrop Bldg., Boston, Mass., is interested.

CENTRAL NEW YORK & WESTERN.—Surveys are now being made, according to reports, along the divisions of this system between Angelica and Olean, N. Y., with a view of abolishing much of the heavy grade. It is also said that the line between Olean and Bolivar may be changed from narrow to standard gage. M. S. Blair, Gen. Supt., Hornellsville, N. Y.

CHICAGO, ROCK ISLAND & PACIFIC.—Official reports state that most of the grading has been completed on the extension from Chickasha, Ind. Ter., to a point 75 miles west, via Anadarko. About 30 miles of track has been laid. As formerly stated, the contractors are Cruch & Lee, Kansas City, Mo.; Andrew Sheridan, St. Joseph, Mo.; J. A. Ware, Sedalia, Mo.; Craney Bros., Paris, Tex. W. E. Dauchy, Supt. of Maintenance and Construction, Topeka, Kan.

COLORADO STATE LINE.—Incorporated in Colorado, March 6, with a capital stock of $50,000, to build from Crevasse, on the Rio Grande Western Ry., along West Salt Creek, thence to White River and to Vernal, Utah. The directors are: Charles O. Baxter, Sylvester P. Barron and Frank E. Baxter, with principal offices at Grand Junction, Colo., and St. Louis, Mo.

COLUMBUS, BLOOMINGTON & TERRE HAUTE.—We are informed that preliminary surveys are now in progress for this proposed steam railway through Brown, Monroe, Owen, Clay and Vigo counties, Ind. The route is somewhat rough and passes through limestone, coal and fruit districts. The estimated cost of construction is about $900,000, and it is thought that about $450,000 of this will be voted by the townships affected. W. H. Rights, Ch. Engr., Columbus, Ind.

COLUMBUS, MARSHALL & EASTERN.—C. E. Sawyer, Ch. Engr., Marshall, Mich., informs us that the surveys are nearly completed, 100 miles of right of way obtained and the capital for construction secured for this new line from Marshall to Bay City, via Olivet, Vermontville, Portland, Lyons, Hubbardstown, Alma and Midland, 140 miles. The contract has been let to the New York Construction Co., Ltd., address Marshall, and track-laying will begin about April 1. H. E. Hollon, Pres., Marshall.

DETROIT & NORTHERN.—It is officially stated that work is to begin in the spring on this proposed line from Mount Clemens to Marine City, via New Baltimore, Anchorville and Fairhaven, Mich., 30½ miles. Surveys have been commenced. The road will be of a standard gage, with a 65-lb. steel rail. Luther S. Cushing, Pres., St. Paul, Minn.; Theodore H. Bacon, Ch. Engr., Marine City, Mich.

EVANSVILLE & SOUTHERN.—Incorporated in Indiana, with $50,000 capital stock, to build between Evansville and Cannelton, Ind. W. C. Henning, Dayton, O.; E. W. Henning, Cannelton, are incorporators.

GUYANDOTTE VALLEY.—This company has been incorporated in West Virginia, with a capital stock of $2,000, to build from Huntington to Pineville, W. Va., about 80 miles. The incorporators are: J. L. Caldwell, John H. Holt, C. W. Campbell and others, all of Huntington, W. Va.

HUTCHINSON, OKLAHOMA & GULF.—Incorporated in Oklahoma, with a proposed capital stock of $20,000,000, to construct a line from Hutchinson, Kan., via Guthrie, Okla., to Denison, Okla. The office is to be at Guthrie, and the directors are said to be J. A. McNeal, H. L. Miller and others.

ILLINOIS TERMINAL.—This company is said to contemplate the extension of its line from Alton, Ill., to a point near Madison, so that it may intersect all the large railway systems entering East St. Louis. H. H. Ferguson, Gen. Mgr., Alton, Ill.

KANSAS CITY, PITTSBURG & GULF.—Reports state that contracts will be let in about one month for grading and trestle work on an extension from Lemon, on the main line, to Orange, Tex., 13 miles. Locations have been made and right of way obtained. The maximum curve will be 4°, and the maximum grade .5 of 1%. R. Gillham, Ch. Engr., Kansas City, Mo.

LAKE MANITOBA RY. & CANAL.—Press reports state that this company will do considerable construction work during the coming season, and add to its rolling stock and equipment. The company operates 193 miles of line between Gladstone and Winnipegosis, Manitoba. D. B. Hanna, Gen. Supt., Winnipeg, Manitoba.

LEETONIA.—This company was incorporated in Pennsylvania March 7, with $100,000 capital stock, to build a steam railway from a point on the Pike Creek Ry. to Leetonia, Tioga county. The incorporators are: C. B. Farr, Pres., Williamsport, Pa.; J. Harrison, Wellsboro, Pa.; J. L. Snyder, Leetonia, and others.

NEW YORK, NEW HAVEN & HARTFORD.—This company has begun preliminary work necessary in establishing a new terminal at Oak Point, New York City. F. S. Curtis, Ch. Engr., New Haven, Conn.

OHIO.—Jas. K. Zollinger, Ch. Engr., 16 Norton Bldg., Louisville, Ky., informs us that the surveys have been made and the right of way obtained for the proposed steam line from Lisbon to East Liverpool, via West Point and Wellsville, O., 17 miles. Work will not be ready to be let for about 60 days. The company has not yet been chartered.

OMAHA, KANSAS CITY & EASTERN.—It is announced that about $500,000 will be spent this year on new equipment for this line. The company also states its willingness to build a 65-mile extension from Quincy to Beardstown, Ill., provided the right of way and land for terminal facilities be granted. E. M. Collins, Asst. Ch. Engr., Quincy, Ill.

PENNSYLVANIA.—In their annual report for 1898 the directors of this company state that on the main line the three points where the heaviest work during the coming year will be necessary in revising the alinement are: Elizabethtown, on the Philadelphia division; Spruce Creek, on the Middle division, and Irwin, on the Pittsburg division. The work at Elizabethtown will complete the straightening and double-tracking of the Harrisburg, Portsmouth, Mt. Joy and Lancaster R. R., which is an important link between Philadelphia and Harrisburg, Pa. At Spruce Creek the existing line is practically single track through the present tunnel, while the proposed improvement, involving as it does the construction of a second tunnel, will result in furnishing four tracks for the movement of traffic. The change at Irwin will eliminate the heavy curvature at that point, and result in greater safety and economy in the movement of the trains. Reports state that W. W. Caldwell, lessee of F. L. Brown & Co., Philadelphia, has received the contract for the excavating and building of the west end of the new improvements this company is making to straighten its tracks at Irwin; estimated cost, $250,000. D. F. Keenan and H. S. Kerbaugh are now at work on the east end with 300 men. W. H. Brown, Ch. Engr., Philadelphia, Pa.

PORTSMOUTH & OHIO VALLEY.—Work is expected to begin this month on this projected line from Wharton, O., to the stone quarries of Reitz & Co., six miles. No contracts will be let. Ignatius Reitz, Pres.; R. A. Bryan, Ch. Engr., both of Portsmouth, O.

PRINCETON, SPRING VALLEY & LA SALLE.—This company has been incorporated in Illinois with a capital stock of $100,000, to build from Princeton to Spring Valley and La Salle, Ill., about 20 miles. The incorporators are: Ellsworth L. Rinehart, New York; F. R. Bryan, Princeton; Samuel Lorton, Davenport, Ia.

RIO GRANDE WESTERN.—The directors of this company have addressed a circular to its stockholders advocating a permanent policy in providing annually for extensive and necessary improvements to this system. It is recommended that $200,000 be used to purchase additional equipment and also that extensions be built up the Provo River Canyon and in the Pleasant Valley to additional coal mines now being opened in that field, a total of 25 miles. Deal Bros. & Mendenhall, Springfield, Utah, are reported to have received the contract for grading the first six miles of the proposed branch from Proco towards Heber, Utah. Contracts were also to have been let March 10 for grading eight miles farther, work to be completed before June 15. E. J. Yard, Ch. Engr., Salt Lake City, Utah.

SEABOARD & GULF.—Incorporated in Georgia, March 4, with a capital stock of $1,000,000, to build from Anderson, S. C., to Carrabelle, Fla., 447 miles. Geo. M. Brinson, Stillmore, Ga., is said to be interested.

SISTERSVILLE, PENNSBORO & BURNSVILLE.—M. K. Duty, Secy., Pennsboro, W. Va., informs us that surveys are now being made for this proposed line from Sistersville to Troy, via Kidwell, Middlebourne, Centreville, Northbend and Oxford, W. Va., 55 miles. It is expected to build this summer, and to commence the work as soon as the season opens. R. C. Venable, Ch. Engr., Pennsboro.

SOUTHERN PACIFIC.—This company is contemplating the closing up of the gap in its system between Surf and Elwood, Cal., about 25 miles. W. Hood, Ch. Engr., San Francisco, Cal.

UNION PACIFIC.—Reports from Ogden, Utah, state that Lyman Skeen has been awarded the contract for building 20 miles of the cut-off of this line east of Evanston, Wyo., work to begin about April 1. J. B. Berry, Ch. Engr., Omaha, Neb.

WARREN & ONICHITA.—Incorporated in Arkansas, March 8, with $25,000 capital stock, to build from Warren, Ark., along the old survey of the Little Rock, Mississippi River & Texas Ry. to a point in Morro Valley, 15 miles distant.

STREET AND ELECTRIC RAILWAYS.

DERRY, N. H.—The Derry & Pelham Electric Ry. Co. has been organized to build about 15 miles of electric railway to connect the Chester & Derry Electric R. R. at Derry with the Lowell & Suburban St. Ry. at Lowell. Wm. H. Anderson, Pres., Lowell, Mass.; Frank M. Woodbury, Treas.

PLAINVILLE, MASS.—W. H. Tylee, Worcester, Mass., is reported to have received the contract for constructing the proposed electric railway which is to connect Plainville with Franklin.

WHITINSVILLE, MASS.—The selectmen have granted a franchise to the Worcester & Blackstone Valley St. Ry. Co. to extend its line from Rockdale into Whitinsville.

BUFFALO, N. Y.—The Union Station Ry. Co., of Buffalo, was incorporated March 14, with a capital stock of $60,000, to build and operate an elevated steam, standard-gage railway, six miles in length, with terminals at Main St., Buffalo, and Winchester, in the town of West Seneca. The directors are: Lewis Stockton, Wm. C. Cornwell, W. Caryl Ely and others.

GREENBUSH, N. Y.—Belden & Seeley, Syracuse, N. Y., are said to have been awarded the contract for constructing the proposed line between Greenbush and Nassau.

HERKIMER, N. Y.—The Herkimer & Little Falls Electric St. Ry. Co. has been granted a franchise by the town commissioners to build from Utica to Herkimer.

HOOSICK FALLS, N. Y.—The Bennington & Hoosick Valley Electric Ry. Co. has filed a preliminary certificate of extension of its line from North Hoosick to Lansingburg, N. Y., via White Creek, Pittstown, Johnsonville, Valley Falls and Schaghticoke, about 25 miles. The present line extends from Bennington, Vt., to Hoosick Falls, N. Y. Geo. E. Green, Pres.

MAMARONECK, N. Y.—The highway commissioner of this town has granted permission to the Tarrytown, White Plains & Mamaroneck Ry. Co. to build on the Boston Post Road.

SEACLIFF, N. Y.—The Nassau County Ry. Co. was incorporated March 13 with a capital stock of $25,000, to build a surface line from the Seacliff station of the Long Island R. R. to the steamboat landing. The directors are: Wm. F. Brown, Wm. L. C. Allan, and J. Hollos Gibson, Brooklyn, N. Y.; L. E. Freeman and F. L. Hoyt, Summit, N. J.

TRENTON, N. J.—James L. Branson, Pres., Langhorne, Pa., informs us that the proposed Trenton, Lawrenceville & Princeton R. R. will be built over a private right of way from Trenton to Princeton, ten miles. Surveys have been completed to Lawrenceville, five miles. Contracts have not yet been awarded, but $86,000 of the proposed capital stock of $200,000, has been paid in. The road will not be bonded. The charter is under the general railway laws, and steam will be used if needed, as all the rights of a steam railway were granted. Wm. B. Parry, Ch. Engr., Langhorne, Pa.

BLOOMBURG, PA.—Reports state that the Bloomburg & Berwick Electric Ry. Co. has decided to push the construction of its line to completion before next fall. William Ridgeway and Jos. McCarrell, of Philadelphia, Pa., are interested.

LEBANON, PA.—John A. Riggs, Reading, Pa., is said to be about to assume control of the Lebanon & Annville and the Lebanon & Myerstown St. Ry. Cos. It is proposed to build a new power station and to reconstruct the lines.

MOUNT PLEASANT, PA.—John R. Byrne, Scottdale, Pa., informs us that most of the right of way has been secured for the proposed Mount Pleasant, Scottdale & Connellsville Electric Ry., incorporated Feb. 23, to build from Mount Pleasant to Connellsville, with a branch from Scottdale to West Newton, 28 miles. No contracts have been let yet. Arrangements are being made to secure capital for construction. W. E. Tustin, Pres., Bissell Block, Pittsburg, Pa.

POTTSVILLE, PA.—The Coal Castle Electric Ry. Co. was incorporated March 10 with a capital stock of $30,000, to build from Beechwood Colliery to Moores Store, Schuylkill county, Pa. The incorporators are: R. Steen Martin, Pres.; John M. Emery, Norman A. Saylor and others, of Philadelphia.

MANCHESTER, VA.—Corbin Warwick has petitioned the supervisors of Chesterfield county for the right of way for an electric line to run from Manchester to Petersburg.

NORFOLK, VA.—The Tennis Construction Co., Philadelphia, Pa., is reported to have been awarded the contract for constructing an electric street railway from Norfolk to Sewell's Point.

NEW ORLEANS, LA.—We are informed that the surveys have been made and capital secured for the improvements on the New Orleans & Carrollton R. R., which is to be reconstructed and extended four miles, so as to be 15 miles in length. The following contracts have been awarded upon plans and specifications prepared by Ford, Bacon & Davis, Engrs., Liverpool, London & Globe Bldg., New Orleans, and New York: For steel rails and T-rail special work, the Pennsylvania Steel Co.; girder rail special work, Lorain Steel Co.; motor equipments and generator, General Electric Co.; engine, E. P. Allis Co.; lumber, Reliance Lumber Co. Contracts for cars, trucks, line material, bridges, etc., have yet to be let. J. K. Newman, Pres., Liverpool, London & Globe Bldg.

CINCINNATI, O.—The Cincinnati, Lawrenceville & Aurora Electric St. Ry. Co. is said to have been granted a franchise by the commissioners of Hamilton county, to construct a line from Anderson's Ferry to the Indiana state line, and thence to Aurora, Ind., 23 miles. J. C. Hooven and T. W. McClung are interested. Reports state that the Tennis Construction Co., of Philadelphia, Pa., has received the contract to build a section of the line.

DAYTON, O.—The Dayton, Arcanum & Greenville Traction Co. has been incorporated by Edward H. Parrott, Solomon Good, J. E. Pierce and others, of Dayton, to build between Dayton and Greenville; capital stock, $10,000.

XENIA, O.—The Xenia & Wilmington Traction Co. has been incorporated by Albert Emanuel, Xenia; Harry H. Armstrong, Wilmington, and others, with $10,000 capital stock, to build from Xenia to Wilmington, Port Clinton, etc.

INDIANAPOLIS, IND.—The Indianapolis St. Ry. Co. was incorporated March 7 with a capital stock of $2,000,000 to consolidate the Citizen's St. Ry. Co. and the City Ry. Co. Hiram P. Wasson, Pres., Indianapolis; Hugh J. McGowan, Director, Kansas City, Mo.

LOGANSPORT, IND.—The Logansport St. Ry. system is said to have been sold to George J. Marott, Indianapolis, and others.

RICHMOND, IND.—The Interurban Ry. Co. was incorporated March 8 to build from Richmond to Cincinnati, O., via Scipio. Benj. Starr, Pres.; J. W. Barnes, Treas.

GRAND RAPIDS, MICH.—The Grand Rapids, Grand Haven & Muskegon Ry. Co. has been incorporated with $100,000 capital stock to build an electric railway between the points named. Thos. F. Carroll, Pres.; James Kerwin, Treas., both of Grand Rapids.

CHICAGO, ILL.—We are informed that the contract has been placed for completing the Chicago & Milwaukee Electric Ry. between Highland Park and Evanston, Ill., by June 30. The line has already been built between Highland Park and Waukegan, and a further extension from Waukegan to Milwaukee, along the shore of Lake Michigan, is contemplated. The distance between Waukegan and Evanston is 28 miles. A. C. Frost, Vice-Pres., 108 La Salle St., Chicago; R. S. Ives, Supt., Highwood, Ill.

HARVARD, ILL.—The Continental Construction Co., Boston, Mass., the general contractors for the Chicago, Harvard & Geneva Lake Ry., from Harvard to Lake Geneva, via Walworth and Fontana, 12 miles, informs us that the power house is about completed and that contracts for rails, cars and ties have all been made. H. H. Windsor, Pres., 324 Dearborn St., Chicago, Ill.

ST. LOUIS, MO.—The St. Louis Traction Co. has applied to the councils for a 50-year franchise over most of the streets at present unoccupied.

PUEBLO, COLO.—The Pueblo Electric St. Ry. Co. and the Electric Light & Power Co. have been consolidated under the name of the Pueblo Traction & Electric Co., with $500,000 capital stock. John F. Vail, C. E. Gast and T. H. Devine are incorporators.

FORT SCOTT, TEX.—We are informed that the Glenwood, Polytechnic & College St. Ry. Co. is now constructing an extension and making improvements to its system; work being done by the company with day labor. The length of the completed line will be 17 miles. W. E. Voss, Ch. Engr.

SEATTLE, WASH.—An amended ordinance granting to A. F. Burleigh, W. Smith and Albert Stone, a franchise to build a street railway upon the same streets now occupied by the Yesler way cable line, has been adopted by the council. The present cable line will be reconstructed with double tracks to be operated by electricity, according to reports.

SEATTLE, WASH.—The Seattle & Tacoma Electric Ry. Co. was incorporated March 6, with a capital stock of $1,000,000, to build between Seattle and Tacoma. John Collins and George A. Burch, Seattle; Henry Bucey and H. E. Kanatvold, Tacoma, are incorporators.

ELECTRIC LIGHT AND POWER.

FORT PREBEL, ME.—We are informed that the following bids were received March 6 for furnishing and installing a plant at Fort Prebel, as advertised in Engineering News:

John P. Cushing & Co., Boston, Mass.	$5,300
J. F. Buchanan & Co., Philadelphia, Pa.	5,555
Brown Electric Construct'n Co., New Haven, Conn.	7,400
McCay Engineering Co., Baltimore, Md.	6,260
Walworth Construction & Supply Co., Boston	5,367
Lord Electric Co., Boston	5,735
New Jersey Fdy. & Mch. Co., New York. $5,296 and	5,446
Con. Electric Light Co., Portland, Me.	6,211
Belknap Motor Co., Portland, Me.	5,396
Hancock Equipment Co., Boston	5,445

LACONIA, N. H.—Efforts are being made to secure a municipal plant, at a cost of $11,925. Mayor Pulsifer may be addressed.

MANCHESTER, N. H.—The Hooksett Electric Light & Power Co. proposes to build a new dam and power house at Hooksett Falls this season; estimated cost, about $120,000. Besides furnishing power and light to this city, as at present, it will furnish it to Suncook, Pittsfield and Concord. R. B. Smith, Mgr., writes us that no work is to be done; report is incorrect.

PETERBORO, N. H.—The legislature has granted this city authority to own a plant.

WHITE RIVER JUNCTION, VT.—The town has asked for bids for lighting the streets with electricity. There is a contract at present with the Mascoma comp ny. S. E. Pingree, Town Clk.

BOSTON, MASS.—Congress made an appropriation for a new electric lighting and power station for the navy yard at Charlestown.

NEW LONDON, CONN.—Sebastian D. Lawrence, New London, has submitted a proposition to put in a plant for the city on a 3% basis. C. G. Beckwith, Mayor.

PORTLAND, CONN.—The question of either building a municipal plant or of granting a franchise to the National Stamping & Enameling Co. is being considered.

CHARLOTTE HARBOR, N. Y.—Bids are asked until March 24 for installing a plant, wiring and fixtures complete, carpentry, masonry, painting, dredging and other work in connection with electric lighting and improvements to the state building for the Second Separate Naval Division at Charlotte Harbor. A. D. Andrews, Adj.-Gen., Albany; Lt. E. N. Walbridge, 187 State St., Rochester.

FAYETTEVILLE, N. Y.—We are informed that the Fayetteville Electric Light Co. will soon purchase the machinery for its water power plant to cost $6,000. The plant will have a capacity for 30 1,200-c. p. arc and 500 16-c. p. incandescent lights.

HERKIMER, N. Y.—Bids are asked by the village board until March 22 for electric lighting or for a plant.

ILION, N. Y.—This place voted March 7 to own the plant. N. A. Hanchett, Village Pres.

NEW ROCHELLE, N. Y.—The Eastchester Electric Light Co., Mount Vernon, N. Y., has submitted the lowest bid for furnishing electric lights for one year.

ONEONTA, N. Y.—This town has approved the five-year contract with the Oneonta Electric Light & Power Co.

PORT JERVIS, N. Y.—The Port Jervis St. Ry. Co. is arranging for the construction of a plant and of the extension of the railway. J. N. Bissell, Secy. and Treas.

HOBOKEN, N. J.—The North Hudson Light, Heat & Power Co., which has a monopoly of furnishing electricity for lighting purposes and motive power in Hoboken and the North Hudson towns, has decided to spend $250,000 to improve and enlarge the plant in Hoboken. The company is also considering the advisability of placing all its wires under ground, according to reports.

JERSEY CITY, N. J.—The United Electric Co. of New Jersey has announced the plans in regard to improving the plants and service of the various companies it has absorbed. The smaller plants will be enlarged and the cost of light reduced. A. B. Carlton, Elizabeth, N. J., and B. M. Shanley, Pres. Essex & Hudson Gas Co., Jersey City, may be addressed.

ORANGE, N. J.—The city is considering the question of installing a municipal plant of 400 2,000-c. p. arc lights, and invites suggestions and propositions from engineers and manufacturers, as stated in our advertising columns. John L. Davis, Chn. Com.

PATERSON, N. J.—The United Gas Improvement Co. is at the head of a gas, electric and power combination, which will control all the gas and electric plants in this county and some in Bergen county. All lighting companies in Paterson, Passaic and Lodi will hereafter be under one management. Garret A. Hobart, Vice-Pres. U. S.; Bird W. Spencer, Hobart Tuttle and others are the directors. The capital is $5,000,000, and bonds for a like amount will be issued.

WOODSTOWN, N. J.—The question of the city owning the plant will be voted upon at the next election. W. S. Clawson, Pres. Council.

DANVILLE, PA.—This place will build a plant, according to reports.

PITTSBURG, PA.—The Standard Underground Cable Co., Westinghouse Bldg., Pittsburg, and the Times Bldg., New York, has sold $146,000 of bonds of the United Electric Light & Power Co. of New York to a number of capitalists, who now propose to combine all the electric companies of this city. Geo. Westinghouse, Pittsburg, and Brown Bros., Wall St., New York, are interested.

SCRANTON, PA.—Negotiations are pending for the purchase of Jermyn, Pittston and Avoca Companies, and the Scranton Electric Light & Power Co. The scheme is to erect a power house adjoining the culm piles, which will give cheap fuel for some years to come, and electric power will be furnished throughout the Lackawanna and Wyoming Valleys and to more remote points. Additional capital being required to pay for the plants, a call for an installment is expected on Electric Co. of America stock, which, it is said, may be $10 per share.

BALTIMORE, MD.—Bids are asked until March 25 for supplying portable equipment for handling materials for the use of the electrical commission. C. E. Phelps, Jr., Ch. Engr.

NORFOLK, VA.—Bids are asked until April 8 for enlarging the plant at the navy yard. M. T. Endicott, Ch. Bureau Yards and Docks, Washington.

MARTINSBURG, W. VA.—The question of the city owning its plant is being considered. Councilmen J. J. Foley and W. R. Kline may be addressed.

LOUISBURG, N. C.—This place has been granted permission to issue $30,000 in bonds to build a plant and water-works. W. H. Yarbore, Mayor.

SALISBURY, N. C.—This place is authorized to issue bonds for a plant and water-works.

DYERSBURG, TENN.—W. A. Fowlkes, Mayor, writes us that the question of issuing $30,000 in bonds for a plant and water-works has not yet been submitted to the vote of the people.

BEREA, O.—D. T. Gould, Pres. Bd. Water-Works Trustees, writes us that this place will vote April 3 on the question of issuing $12,000 in bonds for a plant.

LUDINGTON, MICH.—The question of either purchasing the electric plant of the Ludington Water Co. or of building a new plant is being considered, according to reports.

CHICAGO, ILL.—City Electrician Ellicott and Mayor Harrison are considering the question of extending the city plant in the western part of the city. About 2,900 lights will be required; estimated cost, $230,000.

FREEPORT, ILL.—The Freeport General Electric Co., it is stated, has been placed in the hands of a receiver, it being alleged that the company was unable to pay the $78,500 bonds held by it. Wm. O. Johnson, Chicago, receiver.

KNOXVILLE, ILL.—O. G. Campbell, Cy. Clk., informs us that the proposed plant of the Knoxville Electric Light Co. will have a capacity to furnish 31 1,200-c. p. arc and 1,000 16-c. p. incandescent lights. Fred. Seacord is interested.

LOCKPORT, ILL.—Local papers state that a month ago the sanitary board instructed Engineer Randolph to correspond with water-power companies with a view of getting bids for the lease of land at Lockport for development of water power. Every capitalist in the country likely to be interested in a project of the kind was invited to submit a proposal, but Engineer Randolph has not received a single offer. The board hoped to make favorable terms with some syndicate by which the sanitary district would get enough revenue annually to maintain the channel after its completion. The failure of capitalists to come forward with propositions, however, will compel the board to abandon the scheme to lease its water-power rights.

MOLINE, ILL.—The People's Power Co. proposes to erect this year an addition which will double the capacity of its power plant. The plans include a 96-ft. addition to the east of and adjoining the present plant. The new addition will be used as the main engine and dynamo room, for which a large amount of new machinery will be necessary. The cost will be about $50,000.

BROOKLYN, IA.—We are informed that this place will vote March 27 on the question of issuing $2,000 in electric light bonds.

MANSON, IA.—It is stated that an election will be held March 27 to vote on the question of granting a franchise to H. H. Lohnes.

MILTON, IA.—L. L. Hotchkis, Mayor, writes us that this place recently voted in favor of granting a franchise to the Southern Iowa Electrical Co.

MUSCATINE, IA.—Local papers state that the Home Electric & Power Co. has prepared plans for rebuilding its plant and a part of the street railway. Considerable new machinery will be required. President Hubinger and G. E. Wheeler, Supt.

MINNEAPOLIS, MINN.—Thos. Lowry, Pres. Twin City Rapid Transit Co., writes us that nothing has been done in regard to the Coon Creek power plant further than to secure flowage rights. The company is not ready yet to take up the matter of construction.

STURGIS, S. DAK.—The plant of the Sturgis Electric Light & Ry. Co. has been sold to Saml. Oliver, of Rapid City, S. Dak.

GRAND ISLAND, NEB.—Arnold E. Koenig, Grand Island, is preparing the plans for the building of an electric light and ice manufacturing plant, to be erected in this city for the Joehnk-Waldmann Co. It is to be of frame and brick and will cover about 10,000 sq. ft. of ground.

PARSONS, KAN.—Press reports state that plant has been sold to Walter W. Pratt, of New Haven, Conn. Charles McVeigh, of the General Electric Co., will rebuild the plant. The three engines in the power house will be taken out and a 300-HP. Corliss engine put in. It is also stated that the new owner proposes to put in an electric street car line soon. The price at which the plant was sold was $40,000.

CARTHAGE, MO.—It is stated that the citizens, arranging for the sale of the $25,000 of bonds, voted last November for the proposed plant. C. O. Harrington, Mayor.

HOUSTON, TEX.—Blake Dupree, Receiver of the Citizens' Electric Light & Power Co., has let the contract for building the new plant to August Baumbach, of Houston. The contracts for machinery were let some months ago, as follows: Two 500-HP. engines, McIntosh, Seymour & Co., Auburn, N. Y.; three Babcock & Wilcox boilers of 500 HP. each, Aultman-Taylor Machinery Co., Mansfield, O.; steel-plate chimney, 150 ft high and 72 ins. in diameter, Philadelphia Engineering Co., Philadelphia; two jet condensers, etc., the George F. Blake Mfg. Co., New York; 15-ton. electric power overhead traveling crane, 38-ft. span, Wellman-Seaver Engineering Co., Cleveland, O.; two heaters and two Stratton steam separators, Goubert Mfg. Co., New York; two 300-K-W. generators, directly connected to engines, switchboards and complete electrical optfit for the plant, General Electric Co., Schenectady, N. Y. The poles will be renewed, etc. The entire plant will cost about $225,000. W. H. Chapman, Gen. Mgr. and Consult. Engr.

VALVERDE, COLO.—The question of electric lights is being considered. J. B. Jackson, Mayor; Percy McDonald, Secy. Bd. Trustees.

SPOKANE, WASH.—Local papers state that the Washington Water Power Co. proposes to add 2,000 HP. and a new power house on Monroe St. D. L. Huntington, Mgr.

TACOMA, WASH.—The council has granted a franchise to the Snoqualmie Falls Power Co. to furnish power in this city from its new plant.

ASTORIA, ORE.—The question of the city owning its plant is being considered.

PALO ALTO, CAL.—Bids are asked by the city trustees until April 1 for constructing a plant. C. E. Moore, Engr., Santa Clara, Cal.

REDWOOD CITY, CAL.—The trustees have passed an ordinance authorizing certain improvements to the electric plant and water-works. D. R. Stafford, Town Clk.

SANTA ANA, CAL.—The San Gabriel Electric Power Co. has asked for a franchise to put in a plant. This is the first step toward establishing a line of light and power to all the towns from San Gabriel to San Diego, including Whittier, Buena Park, Fullerton, Anaheim, Orange, Santa Ana, Tustin, Oceanside and San Diego. This company already has contracts in Los Angeles, but it claims abundance of power to supply all these Southern California towns with light and all the power they need for shops and manufactories. The company agrees to begin work here within three months after the franchise is granted, and lay wires in conduits.

RICHFIELD, UTAH.—Dr. H. K. Neill and H. W. Ramlose, of Richfield, are reported as interested in a proposed power plant in the canyon above Glenwood to supply power to Richfield, Monroe, Elsinore and Annabella.

HALIFAX, N. S.—Bids for constructing the plant, as advertised in Engineering News, were received March 9 from the following: The Canadian General Electric Co., Royal Electric Co., Fort Wayne Electric Corporation, the Westinghouse Co., Longard Bros., Goldie & McCullough Co. and Cassius C. Peck.

LIVERPOOL, N. S.—The town clerk writes us that bids for a plant have not yet been asked. C. O. Foss, Engr., Bridgewater, N. S.

LINDSAY, ONT.—J. A. Culverwell, Toronto, and others, are interested in a proposed power plant at Burleigh Falls, about 30 miles from here. It is proposed to develop 5,000 HP., half of which will be transmitted to this place. Capital stock, $200,000.

PICTON, ONT.—Bids are asked until April 4 for furnishing the following machinery for a plant: Alternator, 120 K-W. capacity; transformers, 1,000 lights capacity; steam engine, low speed, 125 HP. capacity; supplies, weatherproof wire, insulators, cross-arms, etc. R. A. Norman, Town Clk.; R. J. Parke, Consult. Engr., Temple Bldg., Toronto.

OTTAWA, ONT.—It is stated that the Stilwell-Bierce & Smith-Vaile Co., Dayton, Ohio, has been awarded the contract, at about $30,000, for the water wheels to operate the electrical machinery to open the lock gates on the Soulanges Canal.

WHITLEY, ONT.—The question of a municipal plant is being considered.

COLUMBIA, B. C.—Geo. Nixon, Elec. Engr., Spokane, Wash., is reported as preparing plans and specifications for a plant of 700 lights capacity. The plant will be built, however, on the basis of 1,500 lights.

PUEBLA, MEX.—It is stated that the Pelton Water Wheel Co., San Francisco, Cal., and 143 Liberty St., New York, has a contract to furnish a hydraulic power plant of 5,000 HP. for the Portezuelo Electric Light & Power Co., of Puebla, consisting of four 1,250-HP. water wheels and about 500 tons of pipe. It has also contracted for a plant of 1,800 HP. for the Compania Electuca y Imgadora, of Tetepango, Mex., consisting of six water wheels and about 40 tons of pipe.

ANIMAS, MEX.—Press reports state as follows: A concession has been granted by the chief executive to Quintin Gomez y Ponce and Leopoldo Gavito, of Mexico City, for a plant to utilize part of the waters of the Atoyac River. Surveying for the plans must be begun within four months and completed and the plans presented to the secretary of fomento within eight months. Construction must be commenced within two months after the approval of the plans by the government. The concessionaires must deposit in the National Bank of Mexico within eight days from the date of promulgation of this contract the sum of $5,000 in bonds of the Public Consolidated debt.

LONDON, ENGLAND.—The Charing Cross & Strand Electricity Supply Corporation, Ltd., has applied for a franchise for furnishing light in the old city. At present one company has the lighting of the city, and it is desired to break this monopoly.

NEW COMPANIES.—Selingsgrove Electric Light, Heat & Power Co., Selingsgrove, Pa..

Maximum Power & Air Compressing Co., Chicago, Ill.; $250,000; to furnish compressed air to street cars, etc., and to build a plant near Chicago; Wm. McAndrews, Mech. Engr., Owings Bldg., Chicago.

Pendleton Water & Light Co., Pendleton, Ind.; $5,000; J. H. Brown, B. O. Mayer, Geo. Mayer.

Kenilworth Light & Fuel Co., Chicago; $50,000; Joseph Sears, Horace Kent, M. Tenney.

Fayetteville Electric Light Co., Fayetteville, N. Y.; $12,000; to supply electric light, heat and power to Fayetteville and Manlius; Charles L. Collins, Amos Gillette.

People's Light Co., Pittston, Pa.; $150,000, with $15,000 paid in; E. W. Mulligan, 60 South St., Wilkesbarre.

Merchants' Gas & Electric Co., Healdsburg, Pa.; $15,000; has control of the Healdsburg Electric Lighting Co., and will make extensive improvements; Jos. Mayo.

United Electric Co. of New Jersey, Newark, N. J.; $30,000,000; to control all companies in Essex, Hudson, Passaic, Bergen, Morris, Union and Middlesex counties; L. D. Howard Gilmour, Lawyer, Newark; Frank M. Stillman, Rahway, N. J.; Wm. J. Davis, Harrison, N. J.

North Jersey Light, Heat & Power Co., Hackensack, N. J.; $100,000; Wm. A. Linn, Hackensack; Cyrus O. Baker.

Wildwood Beach Electric Light & Power Co., Wildwood, N. J.; Judge Cyrus Hoffa, J. Thompson Baker, Lewisburg, Pa.; Jno. N. Reeve, Wildwood.

Lake Kiskatom Water-Works & Electric Power Co., Catskill, N. Y.; Jas. H. Van Gelder, John N. Pine.

Walpole Electric Light & Power Co., Walpole, N. H.

City Lighting Co., New York, N. Y.; $1,000,000; to furnish electricity and gas for light, heat and power purposes, and to light public streets and dwellings; to operate in New York, Kings, Queens, Richmond and Westchester counties; John M. Ryan, New York; Frank T. Hearns and J. S. Griggs, Jr., Engr., 1133 Broadway, New York.

People's Light Co., Greenville, Miss.; $25,000; to furnish light, power and heat; Fred. Metcalf, Lucien C. Gwin, Geo. Wheatley.

Montgomery Electric Light & Power Co., Canajoharie, N. Y.; $25,000; A. G. Richmond, E. B. Burnap, James H. Cook, Canajoharie.

Burntside River Water Power & Improvement Co., Duluth, Minn.; $25,000; to build a plant on the falls on Burntside River between Long Lake and Fall Lake, Lake county; Louis J. Hopkins, Duluth; E. A. White, Ely, Minn.; Geo. C. Swallow, Milwaukee, Wis.

Tiverton Electric Light Co., Tiverton, R. I.; $100,000.

Chase Electric Construction Co., 209 North Ave., Plainfield, N. J.; $5,000; to carry on a general electric business; Frederick F. Chase, Fanwood, N. J.; Louis T. B. Chase.

Montana Water, Electric Power & Mining Co., St. Louis, Mo.; $500,000, fully paid in; Paul A. Fusz, M. Rumsey, C. Jogels, L. M. Rumsey.

Twin City Electric Co., Grand Rapids, Wis.; $20,000; a co-operative company, and will build a plant at once.

Riceville Electric Light & Power Co., Riceville, Ia.; $10,000; B. W. Hendricks, Pres.; E. C. Richmond, Vice-Pres.; Robt. Templeton, Secy.

Suburban Electric Co., Charlotte, N. C.; to build a plant and belt line railway.

Glencoe Electric Light Co., Glencoe, Minn.; $8,000.

Green Bay Gas & Electric Light Co., Green Bay, Wis.; has control of the McCartney Electric Light Co. and the Fox River Electric Lighting Co.; Wm. Mainland, Pres., Oshkosh, Wis.; Harry Fisk, Secy.; Sinclair Mainland, Treas. and Mgr.

Baltimore Electric Regulator Co., Baltimore, Md.; $100,000; to manufacture and sell electric current regulators and other electric specialties, but particularly regulating sockets for individual electric lights, motors and fan-motors under patents granted to C. B. Hight, Baltimore.

Ardsley Electric Co., Greenburgh, N. Y.; $50,000; N. C. Lyen, Montclair, N. J.; L. A. Beebe, Dobbs Ferry; S. T. Davis, Jr., Ardsley-on-the-Hudson, N. Y.

Reed Tide Power Co., Trenton, N. J.; $40,000,000; to utilize the tide as a power for driving water wheels, etc.; Wm. Reed.

Augusta Heat, Light & Power Co., Augusta, Ga.; $100,000; H. C. Perkins, N. L. Willet, P. D. Horkan.

High Falls Electric Co., High Falls, N. Y.; $150,000; to build a plant on Rondout Creek; John Charles, Kingston, N. Y.; Jos. P. Paulding, New York; Alvin H. Plummer, Crawford, N. Y.

Conanicut Light & Power Co., Jamestown, R. I.; $100,000; Frank W. Casler, Alvin H. Peckham.

BRIDGES.

BOSTON, MASS.—A contract has been awarded to the Berlin Iron Bridge Co., East Berlin, Conn., at $23,820, for two retractile draws for a bridge over the Fort Point channel.——The railroad and street commissioners have decided to give a public hearing about March 24 on the question of the proposed bridge over the tracks of the Boston Terminal Co. at Cove St.; probable cost, between $400,000 and $500,000.

BOSTON, MASS.—Bids are asked until March 24 for furnishing and placing the superstructure of the Charlesgate West bridge over Ipswich St., as stated in our advertising columns. Benj. W. Wells, Supt. Sts.

NEWPORT, R. I.—Wm. Hamilton, St. Comr., informs us that the following bids were received March 10 for a steel bridge at Van Zandt Ave.: New Jersey Steel & Iron Co., $4,635; Berlin Iron Bridge Co., $4,550; J. E. Buddington, $4,495; Harrington, Robinson & Co., $4,597; New England Structural Co., $4,815; Youngstown Bridge Co., $4,433; King Bridge Co., $4,680; Walsh Boiler & Iron Works, $4,755; Toledo Bridge Co., $4,710; Frank R. Long & Co., $4,785; Groton Bridge & Mfg. Co., $4,800; Canton Bridge Co., $4,517; Mace Moulton, $4,722; Massillon Bridge Co. (accepted), $4,390; Boston Bridge Works, $4,770; Wrought Iron Bridge Co., $4,533.

BINGHAMTON, N. Y.—City Engineer Monroe is preparing plans for the proposed Tompkins St. bridge. The contract will be let about a month after the plans are completed.

BUFFALO, N. Y.—Bids are asked until March 23 for constructing a plate-girder bridge over the Erie Canal, at Erie St., as stated in our advertising columns. John N. Partridge, Supt. Pub. Wks., Albany.——Bids are asked until March 21 for constructing the piers, abutments, approaches and superstructure of a viaduct over the Lake Shore & Michigan Southern Ry. in Elk St., and over the Erie R. R., between Elk St. and Abbott Road. E. B. Guthrie, Ch. Engr. Grade Crossing Comn.; F. V. E. Bardol, Cy. Engr.

BUFFALO, N. Y.—A bill is before the legislature providing for the construction of a new bridge over the canal at Ferry St.

HOFFMANS, N. Y.—The N. Y. C. & H. R. R. R. Co. proposes to construct a bridge over the Mohawk River.

SYRACUSE, N. Y.—A bill has been signed by the governor authorizing this place to construct a bridge over Onondaga Creek at Rich St.

PHILADELPHIA, PA.—We are informed that the wooden Howe truss railway bridge over the Susquehanna River at Rupert will be renewed in steel. The Pencoyd Iron Works has the contract for the steel work, and Smith & Campion, Mahanoy City, for the masonry work. H. K. Nichols, Ch. Engr., Philadelphia & Reading Ry. Co.

PITTSBURG, PA.—F. M. Ashmead, Res. Engr., Allegheny Valley Ry. Co., informs us that plans are being prepared for a new structure at West Junction, but no date is set as yet for the commencement of the work. The substructure will be built by the company.

VANDENGRIFT, PA.—The grand jury has recommended that a bridge be built across the Kiskiminetas River at this place, between Armstrong and Westmoreland counties. Address the county commissioners at Greenburg.

WASHINGTON, D. C.—An additional $100,000 has been appropriated for the bridge across Rock Creek on Massachussetts Ave., and the commissioners are authorized to enter into a contract for the entire bridge, at a total cost of $225,000.

CUMBERLAND, MD.—Bids are asked until March 21 for a brick arch bridge with stone abutments. D. P. Le Fevre, County Engr., 2 Harrison Bldg.

POCOMOKE CITY, MD.—The Philadelphia & Norfolk R. R. Co. proposes to replace the wooden bridge over the Pocomoke River. No plans, etc., have as yet been decided upon.

SAVANNAH, GA.—The Georgia & Alabama Terminal Co. will construct a bridge over the Savannah River to Hutchinson Island to cost about $100,000, as soon as the plans are approved by the secretary of war.

NATCHEZ, MISS.—L. M. Dalgorn, Engr., writes us that bids are asked until April 3 for constructing two steel bridges. J. F. Jenkins, Chancery Clk.

CLEVELAND, O.—Bids are asked April 7 for the steel and iron superstructure of Center St. bridge over Cuyahoga River. G. R. Warden, Dir. Pub. Wks.——The city officials are contemplating widening the east approach of the Superior St. viaduct, about 20 ft. Action will soon be taken by the council.

COLUMBUS, O.—Bids are asked until April 5 for furnishing the material and constructing the steel superstructure, 210 × 35 ft., and substructure of a bridge over Big Walnut Creek; estimated cost, $27,000. W. H. Halliday, County Audr. and Clk.

COLUMBUS, O.—Bids are asked until April 8 for the sub and superstructure of two plate-girder bridges 144 ft. and 52 ft. spans, respectively, and one brick arch culvert; also until April 12 for the sub and superstructure of three plate-girder bridges. W. H. Halliday, County Audr. and Clk.

HAMILTON, O.—The county commissioners have awarded a contract to W. N. Andrews, at $4,200, for the High and Main St. bridge.

TOLEDO, O.—W. F. Brown, Cy. Engr., has been authorized to secure plans and specifications and bids for the new Lafayette St. bridge.

CHICAGO, ILL.—The city and sanitary board are negotiating for the construction of a $75,000 bascule bridge over the Chicago River at Canal St.——The construction of bridges over Washington and La Salle Sts. for the use of the west and north side street railways has been proposed by Maj. Wm. L. Marshall, U. S. Engr., and J. S. Dunham.

CHICAGO, ILL.—Oscar Sanne, of Milwaukee, Wis., has been engaged by W. H. Hughes, Engr., 1511 Great Northern Bldg., Chicago, to assist in working out details for a four-track draw-span of 334 ft. 6 ins. long, weight, about 1,300 tons to cross the Drainage Canal, for the Western Indiana Ry. Co. Mr. Sanne's address is also Great Northern Bldg.

MILWAUKEE, WIS.—The Milwaukee Light, Heat & Traction Co. has awarded a contract to the Wisconsin Bridge & Iron Co., for an iron trestle, 1,100 ft. long, and station, to cost $20,000.

URBANA, ILL.—On March 7 bids were received for four highway bridges on masonry as follows:

Bidder.	Bridge lengths 100-ft.	80-ft.	30-ft.	20-ft
LaFayette (Ind.) Bridge Co.	*$1,925	$1,578	....	....
Wabash (Ind.) Bridge Co.	2,093	1,780	$679	$411
Massillon (O.) Bridge Co.	2,020	*1,559	714	414
Indianapolis (Ind.) Bridge Co.	2,069	1,767	719	399
St. Louis (Mo.) Bridge & Iron Co.	2,090	1,764	775	438
Canton (O.) Bridge Co.	2,050	1,600	698	545
Milwaukee (Wis.) B. & I. Works	2,400	1,950	....	....
New Castle (Ind.) Bridge Co.	2,078	1,732	*652	*384

*Accepted.

MINNEAPOLIS, MINN.—Bids are asked until March 31 for the steel and iron work for widening the stone arch bridge over the East channel. G. W. Sublette, Cy. Engr.; L. A. Lydiard, Cy. Clk.

ST. PAUL, MINN.—The city engineer has been instructed to prepare plans and estimates for the widening of the south end of the Wabasha St. bridge. The board of aldermen has ordered a transfer of $69,000 of the Broadway bridge fund for widening the Wabasha bridge.

EUREKA, MO.—An association has been organized to construct a bridge over the Merrimac River, between Eureka and Crescent. Geo. W. Latterman, Jesse Joplin, W. S. Geggie and others are interested.

ST. JOSEPH, MO.—Bids are asked until March 22 for constructing certain bridges, according to reports. Theo. Steinacker, County Surveyor.

PARIS, ARK.—It is reported that the Arkansas Central R. R. Co. will construct a steel and wooden bridge at Short Mountain and over Six-Mile Creek. N. B. Kendall, Gen. Mgr., Fort Smith.

KALAMA, WASH.—Bids are asked until April 3 for a bridge over Fallert Creek. J. H. Wood, County Clk.

HAYWARDS, CAL.—The county surveyor has been directed to submit plans to the board of supervisors, Oakland, for rebuilding the bridge on the Mountain Road.

MANNHEIM, GERMANY.—Reports state that Consul W. J. Hoffman, of Mannheim, writes that Feb. 17 the council passed a resolution appointing a commission to consider the question of constructing another bridge over the Necker River. He also states that in view of the reasonable freight rates given by the Rhine River transportation companies between Rotterdam and Mannheim, American bridge companies may desire to compete.

BUILDINGS.

EDEN, ME.—This town voted, March 9, to raise $74,666 by taxation to purchase a lot at Bar Harbor for a town hall, according to reports.

BURLINGTON, VT.—The summer mansion of Mrs. John B. Tibbets in this city was destroyed by fire, March 9, causing a reported loss to the building of $90,000; insurance, $35,000.

BOSTON, MASS.—The stone building at 55 to 65 Charlestown St., occupied by George Brown & Bros. and others, was damaged by fire, March 8; reported loss, $70,000.

PAWTUCKET, R. I.—The plans of Stone, Carpenter & Wilson and of A. H. Humes have been accepted, respectively, for a new 12-room 3-story school building on Hancock St. and for a 6-room addition to the present building on Broadway; total cost, $52,000.

DANBURY, CONN.—Tracey Bros., Waterbury, Conn., have been awarded the contract for erecting the new $40,000 court house for Fairfield county.

BUFFALO, N. Y.—The erection of a new 8-story hotel building at Clinton and Washington Sts. is said to be projected; estimated cost, $750,000. H. H. Little, 114 White Block, has prepared preliminary sketches.

ELLIS ISLAND, N. Y. H.—The following bids were received by the supervising architect, Washington, D. C., March 10, for the ornamental iron work of the main building at the U. S. Immigrant Station, Ellis Island, New York Harbor:

		Mos.
Brown-Ketcham Iron Wks., Indianapolis, Ind.	$30,328	8
Shannon Mfg. Co., Philadelphia, Pa.	38,960	6
Bradley & Hubbard Mfg. Co., Meriden, Conn.	53,870	12
Deloplain & West, Philadelphia, Pa.	40,950	5
Hecla Iron Works, Brooklyn, N. Y.	35,900	6
R. H. Hood & Co., New York	39,370	..
Snead & Co. Iron Wks., Louisville, Ky.	41,242	12

ELMIRA, N. Y.—Congress has voted to erect a new public building in this city, to cost $185,000.

KINGSTON, N. Y.—Plans have been accepted by the supervisors of Ulster county and approved by the state prison board for a new 3-story county jail building, 50 × 80 ft., to be erected in this city. Myron Teller, Arch.

NEW BERLIN, N. Y.—A fire here, March 7, destroyed the Opera House Block and other buildings; reported loss, $60,000.

NEW YORK, N. Y.—Bids are asked by the department of public charities, foot of East 26th St., until March 20, for altering the present stable for the drug department and clothing storage, Bellevue Hospital grounds, 26th St. and 1st Ave.; two sureties, $4,000 each.——Bids are asked by the department of correction, 148 East 20th St., until March 23, for the installation of a complete high pressure steam plant in the workhouse, and a complete pumping outfit for the stone quarry on Blackwell's Island; sureties, $2,500.——Bids are asked by the department of education, at 585 Broadway, until March 23, for erecting an addition for Public School 46, 156th St. and St. Nicholas Ave.——Plans have been filed by Wm. C. Hunter, 3649 3d Ave., for a 7-story brick and stone flat building at St. Nicholas Ave. and 119th St., to cost $100,000, and a 7-story bachelor apartment building, to cost $100,000. Neville & Bagge, Archs., 217 West 125th St.; by Jacob Wirth, 1010 East 162d St., for four 5-story brick flat and store buildings at Park Ave. and 132d St., to cost $79,000. John Hauser, Arch., 1441 3d Ave.; by Union Theological Seminary for a 5-story brick dormitory at 17 Rutgers Place, to cost $65,000. Horenburger & Straub, Archs., 122 Bowery; by C. M. Silverman, 230 West 126th St., for two 5-story brick flat buildings on 96th St., near 1st Ave., to cost $60,000. Neville & Bagge, Archs.; by Leith & Glenn, 217 West 125th St., for a 7-story brick flat and store building at 114th St. and St. Nicholas Ave., to cost $80,000. Neville & Bagge, Archs.; by James Livingston, 8 West 91st St., for a 7-story brick flat building at 93d St. and Central Park West, to cost $175,000. Neville & Bagge, Archs.; by Henry Rothchild, 109 East 81st St., for eight 5-story brick flat and store buildings at Lenox Ave. and 114th and 115th Sts., to cost $196,000. Geo. F. Pelham, Arch., 503 5th Ave.; by Wm. Rogers, 139 West 116th St., for four 5-story brick flat buildings at 535 5th Ave., to cost $80,000. H. S. Howell, Arch., 748 East 138th St.; by Gunn & Grant, 174 West 107th St., for a 7-story brick and stone store and flat building at 113th St. and Broadway, to cost $175,000.

Henry Anderson, Arch., 1180 Broadway; by Col. O. H. Payne, 852 5th Ave., for a 5-story stone medical college at 1st Ave. and 27th and 28th Sts., to cost $500,000. McKim, Mead & White, Archs., 160 5th Ave.; by Jas. C. Crawford, for five 3-story dwellings on 118th St., near 7th Ave., to cost $80,000. A. H. Taylor, Arch.——The following bids were received by the board of education March 6 for erecting a new building for Public School 109: Luke A. Burke, 401 West 59th St., $307,700; P. Gallagher, 150 5th Ave., $317,000; Mapes-Reeve Construction Co., 150 Nassau St., $321,546; J. J. Hopper, 217 West 125th St., $328,697; P. J. Brennan, 63 West 22d St. (accepted), $293,000; Murphy Bros., 407 East 101st St., $305,000; John H. Parker Co., 256 Broadway, $327,000; Thomas Cockerill & Son, 550 West 51st St., $318,900; W. S. Long, 1125 Broadway, $298,890; Harry McNally, 287 4th Ave., $313,000.——The following bids were also received for sanitary work at Public School 108: William Horne & Co., 245 West 26th St., $4,314; Mahony Bros., 52 New Bowery, $4,290; Tolmie & Kerr, 245 West 12th St., $4,418; Hartman & Horgan, 287 4th Ave., $3,583; A. & W. Gray & Co., $3,876; Alfred Nugent & Son, 45 Columbia St., $3,673; Springstead & Adamson, 401 East 104th St., $3,700.

NEW YORK, N. Y.—Bids are asked by the board of education until March 27 for erecting a new school building on 101st and 102d Sts., between Columbus and Amsterdam Aves., Borough of Manhattan; also for alterations in and erecting addition to Public School 70, Borough of Brooklyn.——Plans have been filed by the Mohawk Realty Co., 136 Liberty St., for an 8-story brick bachelor apartment building at 132 to 134 West 45th St., to cost $125,000. Neville & Bagge, Archs., 217 West 125th St.

ROCHESTER, N. Y.—Bids are being received for the erection of public bath building in this city. Peter Sheridan, Cy. Clk.

ROMER SHOAL, N. Y.—Bids are asked until April 1 for erecting a light-house at Romer Shoal, New York, as stated in our advertising columns. Lt.-Col. D. P. Heap, U. S. Engr., Tompkinsville, N. Y.

DOVER, N. J.—Plans are being prepared, according to reports, for a new brick and stone church building for the Presbyterian Church, to cost $75,000. Paul Botticher, Arch., 751 Broad St., Newark.

JERSEY CITY, N. J.—The board of education has decided to erect a new $100,000 school building in the Greenville district to replace the one recently burned.

PHILADELPHIA, PA.—Samuel Gourley, Jr., 21st St. and Ridge Ave., is said to have been awarded the contract, March 7, for erecting a 9-division building at 34th and Wharton Sts., 36th Section, at $29,865.

PITTSBURG, PA.—The directors of the Pennsylvania R. R. Co. in their annual report state that negotiations with this city are now progressing looking to the erection of a new passenger station, with yard, train shed, etc., which will eventually cost about $1,500,000.——Plans are being prepared, according to reports, for an 8-story warehouse and store building to be erected on Penn Ave., to cost $75,000. Ellsworth Dean, Arch.

PITTSBURG, PA.—Bids are asked until March 21 for erecting an additional building at the City Home and Hospitals, Marshalsea. George Booth, Director of Dept of Charities.

VILLANOVA, PA.—Reports state that Jacob Myers & Sons, Juniper and Sansom Sts., have been awarded the contract for erecting the new building for Villanova College, to cost about $300,000. E. F. Durang, Arch., Philadelphia.

WASHINGTON, D. C.—The following bids were received by the district commissioners, March 11, for erecting an 8-room school building at 12th and D Sts., N. E.: Gleeson & Humphrey, $30,900 and $30,700; B. F. Mockabee, $32,673 and $32,473.

BALTIMORE, MD.—Bids are asked until March 21 for erecting a school building at Brooklyn. F. Eugene Wathen, School Comr., Annapolis, Md.; Joseph E. Sperry, Herald Bldg., Baltimore.

TALLULAH FALLS, GA.—Fred. Wagner, Atlanta, Ga., has received the contract for erecting a 3-story 100-room wooden hotel building at this place, to cost about $35,000. Bleckley & Tyler, Archs., 461 Fitten St., Atlanta.

BIRMINGHAM, ALA.—H. Stockman is reported to have received the contract for erecting a 3-story business building at 3d Ave. and 19th St. for Loneman, Joseph & Loeb, to cost about $100,000. D. A. Helmich, 306 19th St.

ALEXANDRIA, LA.—The Diebold Safe & Lock Co., Canton, O., has received the contract for erecting a new 3-story 21-cell jail building, 42 × 60 ft., at 2d and Lee Sts.

LOUISVILLE, KY.—Bids are asked by the fiscal court of Jefferson county until April 1 for erecting an addition to the court house. Kenneth McDonald, Arch.——Bids are asked by the supervising architect, Washington, D. C., until April 14, for heating and ventilating apparatus at the U. S. marine hospital building in this city.

INDIANAPOLIS, IND.—Louis H. Gibson and John G. Thurtle are said to be preparing plans jointly for a new 8-story apartment building to be erected at Pennsylvania and St. Clair Sts.

MONTICELLO, IND.—Bids are asked until March 23 for erecting a brick school building one mile east of this town. Address C. S. Kingsbury, Township Trustee; Krutsch & Laycock, Archs., Indianapolis, Ind.

NOBLESVILLE, IND.—The council has decided to erect a $35,000 high school building this summer.

DETROIT, MICH.—The supervisors have decided to readvertise for bids on the marble work and the iron and steel work on the new county building, and have confirmed Vinton & Co.'s contract for interior wood work, at $103,328. They also voted to contract with Lennox & Heldeman, Chicago, for rock wall plaster, at $54,994, and with the Venetian Marble Co. for flooring, at $46,408. Bids for the iron work, etc., will be received until March 23. John Scott & Co., Archs., 67 Moffat Block.

CHICAGO, ILL.—The 8-story building at 207 to 211 Jackson Boulevard was damaged by fire, March 11; reported loss, $100,000.——Reports state that Wm. J. Morley will erect a large building at Randolph and Clinton Sts., to cost about $100,000.

KENOSHA, WIS.—Plans have been prepared by Mr. H. Burnham, Chicago, according to reports, for the new $50,000 library building which is to be presented to this city by Z. G. Simmons.

MILWAUKEE, WIS.—H. J. Esser, 160 New Insurance Bldg., is said to have completed plans for the new fireproof extension to the Wisconsin Telephone Co.'s building on Broadway, to cost $90,000.

WHITEHALL, WIS.—The supervisors of Trempealeau county have dceided to establish a poor farm and insane asylum, to cost $50,000.

LAKOTA, N. DAK.—Bids are asked until April 3 for erecting a 7-room brick school building for Kane School District. A. E. Sheets, Clk.; J. W. Ross, Arch., Grand Forks, N. Dak.

KANSAS CITY, MO.—Bids are asked until April 10, postponed from March 23, for the interior finish, vault doors, plumbing, etc., for the U. S. building in this city. James Knox Taylor, Supervising Arch., Washington, D. C.

KIRKSVILLE, MO.—An election will be held here April 4 to vote upon the question of issuing $35,000 in bonds for a new school building.

DENVER, COLO.—A permit has been granted to the Y. M. C. A. for the erection of a new building to cost $50,000.

DALLAS, TEX.—We are informed that A. H. Belo & Co., publishers of the Dallas "Mining News," are having plans prepared for a 3-story and basement fireproof newspaper building.

SAN FRANCISCO, CAL.—Bids are asked by the supervising architect, Washington, D. C., until April 17, postponement from March 30, for the masonry work, roof covering, etc., for the U. S. building in this city.——The following bids were received by the bureau of yards and docks, Washington, March 4, for (a) the erection complete and (b) for the erection with changes of twelve officers' quarters at the Mare Island Navy Yard: Campbell & Pettus, San Francisco, (a) $117,400, (b) $105,400; W. T. Beitch & Bros., Oakland, Cal., (a) $124,774, (b) $105,000; California Bridge & Construction Co., Oakland, Cal., (a) $113,937, (b) $98,969; E. L. Brookes, San Francisco, (a) $104,859, (b) $86,662; Dennis Jordan, San Francisco, (a) $123,000, (b) $104,700; Camoran & McDonald, Oakland, Cal., (a) $106,460, (b) $96,460; W. W. Anderson, San Francisco, (a) $131,953, (b) $104,793; Sinnott & McCann, San Francisco, (a) $100,147, (b) $90,003; Phil. Sheridan, Berkley, Cal., (a) $122,745, (b) $104,105; Peacock & Halliday, San Francisco, (a) $135,562, (b) $105,642.

WINNIPEG, MAN.—Bids are asked until March 27 for the erection of a new office for the Canadian Bank of Commerce in this city. Darling & Pearson, Archs., Toronto, Ont.

PARIS, FRANCE.—B. D. Woodward, Asst. Comr.-General of the U. S. Commission to the Paris Exposition, is quoted as saying that J. R. Coolidge, of Boston, architect to the commission, will arrive in Paris this week, and with the consulting architect, M. Goustiaux, will at once let the contracts for the United States buildings, so that work can be commenced on them without delay.

WATER-WORKS.

BATH, ME.—The legislature has not passed the bill authorizing this city and Brunswick to purchase the works which supply them with water.

LEWISTON, ME.—The legislature has been asked to grant this city permission to secure a water supply from Lake Auburn, instead of from the Androscoggin River.

EPPING, N. H.—The Epping Water Co. has been incorporated.

MANCHESTER, N. H.—The city will make a number of extensions to the mains in various parts of the city this season.

ATTLEBORO, MASS.—The town has appropriated $29,000 for the water department. J. T. Bates, Town Clk.

PLYMOUTH, MASS.—A committee has been appointed by Moderator Arthur Lord to consider the question of extending the works in the north end of the town.

WHITMAN, MASS.—The commissioners have recommended that a new water supply be secured from Maquam Pond. J. C. Gilbert, Clk., writes us that nothing is likely to be done for some time.

WILLIAMSTOWN, MASS.—We are informed that no work will be done on the proposed extensions to the works of the Williamstown Water Co. for a year or more.

SOUTHINGTON, CONN.—The Southington Water Co. proposes to extend the water mains and make other improvements to the works.

ALBANY, N. Y.—G. I. Bailey, Supt., has recommended the construction of a new reservoir, the placing of a number of new water meters, etc.

AMSTERDAM, N. Y.—The contract for building the extensions to the works has been let to Geo. D. Grannis, Syracuse, N. Y. The city will furnish the materials. The bids for laying the pipe are given under Contract Prices. The contract for building the auxiliary reservoir has been let to the Troy Public Works Co., Utica, N. Y., at $28,144.

ARDSLEY, N. Y.—The Ardsley Water Co. has been incorporated with a capital stock of $50,000 by Newton C. Lyons, Montclair, N. J.; L. A. Beebe, Dobbs Ferry, N. Y., and S. T. Davis, Jr., Ardsley-on-the-Hudson, to supply water to Greenburg.

BAINBRIDGE, N. Y.—It is stated that the litigation between the village and the water company will be settled by the town buying out the works. A vote on the question of issuing $12,000 in bonds for the works will be taken.

BALLSTON SPA, N. Y.—The question of securing a standpipe is being considered.

CATSKILL, N. Y.—The Lake Kiskatom Water-Works & Electric Power Co. has been incorporated to furnish water to this city, Athens, Jefferson, etc. Jas. H. Van Gelder, Jno. N. Pine and Wm. S. C. Wiley are interested.

DUNKIRK, N. Y.—By unanimous vote the water commissioners have awarded a contract to the Snow Steam Pump Works, Buffalo, N. Y., for a 4,000,000-gallon pumping engine, of the crank and flywheel type. Corliss valve gear to work under the control of a governor design of 1899.

HEMPSTEAD (L. I.), N. Y.—It is stated that the Hempstead Water Co. will make improvements to its works to cost about $15,000. C. E. Kimball, Pres.; M. A. Driscoll, Mgr.

HORNELLSVILLE, N. Y.—We are informed that at the last election this city voted to either acquire the works of the Hornellsville Water Co. or to build a new plant. F. W. Dalrymple, Cy. Engr.

HUME, N. Y.—The question of building works is being considered, according to reports.

MOUNT KISCO, N. Y.—An election will be held March 21 to vote on the question of issuing $4,000 in bonds for extending the works.

NEW YORK, N. Y.—Bids are asked until March 23 for furnishing stop cocks, hydrants, boxes, covers, lead, nozzles, handles, screws, etc. Wm. Dalton, Comr. Water Supply, 150 Nassau St.

WHITE PLAINS, N. Y.—The commissioners have approved the plans for a reservoir on the Tompkins Brook watershed prepared by Jno. M. Farley, White Plains. It will have a capacity for 150,000,000 gallons and will cost about $30,000.

CAMDEN, N. J.—We are informed that the partial failure of the new driven-well plant to supply sufficient water and the consequent partial use of Delaware River water from the old works is not satisfactory. No action towards an improvement of the service has yet been taken.

HAMMONTON, N. J.—Three propositions to put in works have been submitted to the council by the Hammonton Water Co., capital stock, $50,000. Ezra C. Bell and Jos. H. Pharon, Philadelphia, are interested; by Chas. A. Campbell, James M. Chester and others, of Ocean City, N. J., capital, $25,000, and by Geo. S. Horn, Scranton, Pa.; J. F. Crandall, Atlantic City, N.J.; Loami Montfort, of this place, capital, $75,000. The proposition of the latter company has been accepted.

ORANGE, N. J.—This city invites propositions for installing a pumping and lighting plant to be operated by electricity, as stated in our advertising columns. The pumping station is to have a capacity of not less than 3,000,000 gallons a day. John L. Davis, Chn. Com.

MEADVILLE, PA.—It is stated that bids for furnishing new pipe and hydrants will soon be wanted. W. A. Doane, Cy. Engr.

NORRISTOWN, PA.—Local papers state that the Norristown Water Co. proposes to obtain a lease of Barbadoes Island, in the Schuylkill River, on which to erect a filtering plant.

PHOENIXVILLE, PA.—B. H. Williams, Supt., writes us that it is proposed to build a 6,000,000-gallon reservoir, lay a new intake pipe to the middle of the river and to build a flood wall around the pump house. This work will probably be done this summer.

PITTSBURG, PA.—The Baldwin Water Co. has been incorporated to supply water in Baldwin township, Allegheny county. Capital stock, $2,000, with $200 paid in; Louis B. Hays, Treas., Pittsburg, and Frank C. Osborn, Sewickley, Pa., are interested.

PITTSBURG, PA.—Bids are asked until March 21 for furnishing for one year cast-iron water pipe, castings, lead pipe, pig lead, gate valves, hydrants, etc. E. M. Bigelow, Dir. Dept. Pub. Wks.

ROCHESTER, PA.—J. P. Leaf writes us that the Consumers Water Co. has applied for a charter, and a hearing will be given April 4. Until then no definite information can be given. It is proposed to build the works this season. Population, 4,500.

SOUTH BETHLEHEM, PA.—A. L. Cope, Secy. and Treas. Mountain Water Co., writes us that the company will extend its pipe line and increase the water supply, if successful in floating its bonds and in selling sufficient new stock.

SEAFORD, DEL.—This place voted March 6 to build works. Councilmen Frank Prettyman, Louis Wallace and W. H. Miller may be addressed.

CUMBERLAND, MD.—The council will consider a proposition to expend $2,000 in sinking experimental artesian wells to improve the city's water supply. The supply of potable water is now drawn from 100 private and twenty municipal artesian wells.

LINCOLNTON, N. C.—This place is reported to have been granted permission to issue bonds for works.

LOUISBURG, N. C.—This place is reported to have been granted permission to issue $30,000 in bonds for works and an electric plant. W. H. Yarbore, Mayor.

ROCKY MOUNT, N. C.—J. C. Braswell, Cy. Clk., writes us that the question of issuing $40,000 in bonds for works will be voted upon in May.

SALISBURY, N. C.—This place is stated to have been authorized to issue bonds for city works and an electric plant. Population (1890), 4,418.

COLUMBIA, S. C.—C. C. Wilson, Cy. Engr., writes us that 1,300 ft. of 18-in. water pipe has already been ordered; the work of laying it will be done by day labor. The city has also purchased 1,325 water meters. Meter boxes are wanted. A quarry pump is also wanted.

ATLANTA, GA.—An election will be held April 12 to vote on the question of issuing $200,000 in bonds for extending the mains. Mayor Woodward and Councilman Camp may be addressed.

FORT McPHERSON, GA.—Bids are asked until April 8 for sinking an artesian well at the fort. Jno. Simpson, D. Q.-M., U. S. A., Atlanta, Ga.

AVONDALE, ALA.—This place has voted in favor of issuing $25,000 in bonds for works and a light plant. J. R. Ellard, Mayor.

MONTGOMERY, ALA.—Bids are asked until April 10 for furnishing four horizontal tubular boilers and removing the present battery at the works, as stated in our advertising columns. R. H. Sommerville, Cy. Treas.

CORINTH, MISS.—Philip H. Porter, 908 Columbia Bldg., Louisville, Ky., has been engaged to prepare plans and specifications for works for the Corinth Water-Works Co. It will want a standpipe, hydrants, valves, pipe, etc.

SARDIS, MISS.—It is stated that propositions are wanted by the mayor for works to cost $12,000. A standpipe will be required.

NEW ORLEANS, LA.—A. Brittin, Pres. City Council, writes us that a vote of the city is expected to be taken in about a month on the question of issuing not less than $12,000,000 in bonds for improving the works, constructing sewerage and drainage system. It is not likely that any work will be done until next year.

DYERSBURG, TENN.—W. A. Fowlkes, Mayor, writes us that the question of issuing $30,000 in bonds for works and a light plant has not yet been submitted to a vote of the people. Population, 3,500.

LOUISVILLE, KY.—Geo. W. Gosnell has been awarded the contract for furnishing 30 fire hydrants at $120 each.

CUYAHOGA FALLS, O.—Press reports state that the council will probably grant a 30-year franchise for works to C. W. Vaughn. After 15 years the city is to have the privilege of purchasing the works.

BRAZIL, IND.—J. W. Williams, Cy. Clk., writes us that the city is sinking a test well 20 ft. in diameter, through the gravel to hard pan. If a sufficient amount of water is found the city will rebuild the works. If the desired amount is not found a new source of supply will be looked for.

JEFFERSONVILLE, IND.—The question of purchasing the works of the Jeffersonville Water Supply Co. is being considered. Mayor Rader may be addressed. Population, 12,000.

LAPORTE, IND.—Bids are asked by the board of water commissioners until March 27 for furnishing, f. o. b. cars, 27,000 ft. of 16, 18 and 20-in. cast-iron pipe, or 27,000 ft. of 18 or 20-in. steel riveted coated pipe, as stated in our advertising columns. Chas. F. Lefmann, Chn., writes us that the committee expects instructions from the council to proceed to advertise for bids on balance of work and material to complete the water-works extension in full, which means 4,000,000-gallon pumps and other machinery; digging, laying of pipe, etc.

VALPARAISO, IND.—The Valparaiso Water Supply Co. has been incorporated with a capital stock of $50,000 by Jos. Gardner, J. R. Ryan and D. J. Loring. At present there is the Valparaiso City Water Supply Co., with works built in 1885.

DURAND, MICH.—This place has been granted permission to issue $30,000 in bonds for works, according to reports.

MANISTEE, MICH.—W. S. Shields, 1407 Title and Trust Bldg., Chicago, has submitted a report and estimates for duplicating the works of the Manistee Water Co. to cost about $109,000. Mayor Smurthwaite and Councilman Wm. Vincent, Chn. Com.; E. W. Muenscher, Cy. Engr.

SPARTA, MICH.—The question of purchasing the works owned by the Welch Folding Bed Co. for $4,500 will probably be voted upon.

LACROSSE, WIS.—The council has voted against extending the mains at a cost of $15,000. The question of putting in a 10,000,000-gallon pump is being urged by Alderman James.

OCONOMOWOC, WIS.—The council has decided to issue $42,000 in bonds for works. Aldermen Notbohm and Kellogg may be addressed.

SUN PRAIRIE, WIS.—An election will be held in April to vote on the question of building works or of granting a franchise.

BURLINGTON, IA.—Bids are asked until March 20 for constructing a pumping station in Crapo Park. G. H. Washburn, Arch., Parsons Block; Wm. Steyh, Secy. Bd. Park Comrs.

DUBUQUE, IA.—E. C. Blake, Cy. Engr., writes us that the city expects to purchase the works of the Dubuque Water Co. this season and will soon appoint appraisers to value the works. Mr. Blake has made estimates showing that the works can be duplicated for $260,000.

GARWIN, IA.—We are informed that it is proposed to issue $4,000 in bonds for works. A. E. Bufkin, Engr., Toledo, Ia.; C. Christensen, Mayor.

OTO, IA.—A. T. Ross, Clk., writes us that the following bids were received March 1 for furnishing the materials and for constructing the works; the town will sink the well:

	Spiral riveted pipe.	Cast-iron pipe.
John Ward, Audubon, Ia.	*$2,450	$2,700
Fremont Turner, Des Moines, Ia.	2,498	2,648
U. S. Supply Co., Omaha, Neb.	2,495	2,700
Jackson & Moss, Des Moines, Ia.	....	3,150
Fairbanks, Morse & Co., Chicago, Ill.	....	2,739

*Awarded contract.

MINNEAPOLIS, MINN.—Bids are asked by the water department until March 31 for furnishing 460 tons of 16-in. cast-iron water pipe, for laying such pipe as may be required during the year; also for constructing 277 Buck wells around hydrants.

MORTON, MINN.—Geo. Welch writes us that an election was called for March 14 to vote on the question of works.

TYLER, MINN.—W. J. Huddleston, Village Recdr., writes us that an election was called for March 14 to vote on the question of issuing $5,000 in bonds for works.

ENTERPRISE, KAN.—This city, which has been furnished by a private company, will extend its pipe system and build a pumping station of its own. H. V. Hinckley, Engr., Topeka, Kan.

MANKATO, KAN.—Bids are asked until about April 1 for constructing works to cost about $20,000. H. V. Hinckley, Engr., Topeka.

TOPEKA, KAN.—H. V. Hinckley, P. O. Box 242, Topeka, has been engaged as consulting engineer on the proposed new works.

ALLEN, NEB.—W. J. Armour, Village Clk., writes us that works will probably be built this spring. Nothing definite has yet been decided upon. Population, 500.

NORTH BEND, NEB.—The question of putting in works and a light plant is being considered.

CLAYTON, MO.—Julius Pitzman, 615 Chestnut St., St. Louis, has prepared plans for a pipe system for securing water from the St. Louis works. A company will probably be organized by members of the St. Louis County Club to lay the mains, etc. Capital stock, $25,000. Judge A. J. Shores, Albert Heege and Daniel Dosenbach are interested.

NEVADA, MO.—The Missouri Water, Light & Traction Co. has been organized with a capital stock of $100,000 by J. B. Quigley, S. A. Wright and H. M. Buck.

HOUSTON, TEX.—The Houston Water Co. has been incorporated to build works; capital stock, $240,000; T. H. Scanlan, Jas. A. Baker, Jr., and T. W. House are the incorporators.

SHERMAN, TEX.—Wm. Tolson, Supt., writes us that the city has sold $44,000 of bonds. Of this amount $24,000 will be used for extending the works and electric plant.

GOLDEN, COLO.—We are informed that this city will ask for bids for constructing works until about April 15. The city voted March 1 to issue $45,000 in bonds for gravity works. There will be about nine miles of pipe. The supply will be secured from Beaver Brook. Louis C. Hill, Engr., Golden; J. W. Rubey, Mayor.

BUTTE, MONT.—Bids are asked by the Butte City Water Co. until April 8 for furnishing the materials and for constructing about 50,000 lin. ft. of 24-in. banded stave pipe, 16,000 lin. ft. of 26-in. steel pipe; also six 24-in. gate valves, special castings, etc., as stated in our advertising columns. Eugene Carroll, Ch. Engr.

SEATTLE, WASH.—Bids are asked until April 12 for completing additions to the works by the construction of the Cedar River works, high-service reservoir, standpipe, force main, etc., as described in our advertising columns. The bid of Gahan & Byrne, Chicago, the only one received at the opening Nov. 15, was given in our issue of Dec. 1. Frank Oleson, Secy. Bd. Pub. Wks.

EAST HIGHLAND, CAL.—The Cram & Van Lewen Water Co. has been incorporated to operate in San Bernardino county; capital stock, $144,000, of which $95,000 is paid in; L. F. Cram, East Highland; A. E. Sterling, Redlands, Cal., and J. F. Pierce, Milwaukee, Wis., are interested.

MONROVIA, CAL.—The council has asked for bids for pipe and laying the same from the artesian wells, the contract for sinking which has been let to J. W. Smith.

PALO ALTO, CAL.—Bids are asked until March 18 for sinking additional artesian wells for the municipal works. C. E. Moore, Engr., Santa Clara, Cal.

PERRIS, CAL.—The Subterranean Water Co. has been incorporated with a capital stock of $25,000, of which $650 has been subscribed; directors: John Peters, J. N. Hearn, H. A. Plimpton, W. R. Lawson, J. F. Hook, D. McPherson and J. G. Clevior.

FORT MOJAVE, ARIZ.—Bids are asked until April 10 for furnishing the materials and for constructing a water tank at Fort Mojave. J. J. McKoin, Supt. Indian School, Fort Mojave; W. A. Jones, Indian Comr., Washington.

LIVERPOOL, N. S.—Bids are asked until March 20 for furnishing 400 tons of water pipe; it to be delivered by May 15. C. O. Foss, Engr., Bridgewater, N. S.; F. R. Barkley, Town Clk.

PRESCOTT, ONT.—Bids are asked until March 25 for constructing works and a sewerage system; estimated cost, $100,000. John Galt, Engr., Toronto and Ottawa, Ont.; Jno. Raney, Secy. Bd. Water Comrs.

WINNIPEG, MAN.—Local papers state that besides the materials for improving the works, bids for which are wanted until April 3, there will be laid about 20 miles of new pipe this year. The two new 5,000,000-gallon pumps are to be in operation by Dec. 31. H. N. Ruttan, Cy. Engr.

GOOLE, ENGLAND.—Parliament has been asked to grant this place permission to build works for $125,000, the supply to be secured from Pollington. Councillor Jackson, Chn. Town Com., and Councillor Turton, Chn. Gas and Water Com., may be addressed.

LONDON, ENGLAND.—The West Middlesex Water-Works Co. and the East London Water-Works Co. have applied to Parliament for authority to build extensions to their works to cost about $250,000 and $7,250,000, respectively, the supply for both works to be secured from the Thames River. The latter company proposes to build another reservoir. The Metropolitan Water-Works Co. and the South Essex Water-Works Co. have also applied for permission to extend their mains.

OTLEY, ENGLAND.—This place has asked Parliament for permission to secure water from Bow Beck and for constructing a reservoir, etc., to cost about $200,000. F. Payne, Chn. Water Com.

JOHANNESBURG, TRANSVAAL, S. AFRICA.—The National Tube Works Co., Pittsburg, Pa., is reported to have been awarded, at about $1,000,000, the contract for 10 miles of 28-in. water pipe to be used in the Rand Gold Mines. It is said that the company will receive a contract for an additional eight miles of pipe on completion of the first order.

IRRIGATION.

GREYDON, LA.—L. L. Hunter, of Shreveport, La., proposes to construct a canal 200 ft. wide and 20 miles long and install a pumping plant, for irrigating about 108,000 acres.

ANAHEIM, CAL.—Reports dated March 4 state that extensive demand has prevailed among the ranches for well casing, pumping plant supplies, etc., for water development.

AZUSA, CAL.—The Duarte, Covina & Azusa Irrigation Co. is considering plans for an increased supply of water for the coming season.

COVINA, CAL.—The Covina Irrigating Co. has awarded a contract to Ben Davidson, Duarte, Cal., for cementing a reservoir.

ELSINORE, CAL.—Burr Bassell, Engr., Los Angeles, has completed a survey for a canal 10 ft. wide and 4 ft. deep, which is to be constructed by the San Francisco Savings Union Co., of San Francisco, from Smith Mountain to Elsinore, a distance of 27 miles, to irrigate the Pauba and Temecula Ranches. A storage reservoir will be constructed below the mountain.

MARYSVILLE, CAL.—W. F. Peck & Son have been engaged to survey for a proposed ditch and reservoir on the Tuba River, above Foster's Bar.

MONROVIA, CAL.—Bids are asked until March 18 for furnishing and laying 10, 12 and 14-in. steel pipe; 12 and 14-in. wooden pipe and 14-in. cement pipe. W. A. Walker, Cy. Clk.

MONTAGUE, CAL.—S. D. Prather has secured rights to 4,000 ins. of the Shasta River in the Hawkinsville district, to be run through a pipe line to this place for irrigation, etc.

ORANGE, CAL.—It is proposed to construct a reservoir covering 40 acres, and a cement pipe line, at a cost of $8,445, to supply the district south of San Iago Creek with water for irrigation.

PORTERVILLE, CAL.—Representatives of the various ditches between here and Woodville have held a number of meetings at the office of the Pioneer Land Co. to consider the question of more equal distribution of water. Henry Hunsaker, Chn.; H. S. Bachman, Secy.

REDLANDS, CAL.—J. B. Pope, Engr., has given the following estimate of a plan to secure a supply of water to irrigate the orchards of Redlands: First-class triple-expansion high-duty steam pump, with a capacity of 500 ins., and a 600-HP. high-grade tubular boiler with feed pump and fittings complete, $18,000; freight, $500; installing, $1,000. Equipping secondary or accumulating pumping stations with power pumps, engines or motors, pipe lines, etc., complete, $8,000. The total cost being $95,500.

RIVERSIDE, CAL.—The Temescal Water Co. has filed a claim to 200 ins. of water in Coldwater Canyon, Santa Ana Mountains, for irrigation and power purposes.

PRICE, UTAH.—It is proposed to construct a canal 20 ft. wide and 30 miles long from the Uintah River to irrigate about 60,000 acres, to cost between $50,000 and $75,000. J. E. Fuller, Blackbuttes, Wyo., and Walker Bros., bankers. W. D. Shile, Engr., Salt Lake City.

PROVO, UTAH.—Reports state that the Blue Cliffs Canal Co. is asking for bids to complete its canal from its head to the top of Provo Bench, at the mouth of Provo Canyon. The canal is to be completed by May 15, and to have a carrying capacity of 1,000 cu. ft. of water a minute.

NEW COMPANIES.—Black Rock Land & Irrigation Co., New York, N. Y.; $3,000,000, with $90 paid in; to construct and operate water-works and irrigation enterprises; Charles H. Mosher, Norton Chase and Walter S. Logan, of New York; Schuyler S. Moore, of Troy, N. Y.

Missoula Irrigating & Power Co., Missoula, Mont.; $50,000; to use about 500,000 ins. of the Missoula River for irrigating lands in Hell Gate, Missoula and Frenchtown Valleys; R. H. Cobban, Samuel Dinsmore, C. H. Dinsmore, A. E. Pond and F. A. Price.

Kanab Pipe Line Co., Salt Lake City, Utah; $5,100; to acquire and maintain water through pipes, ditches, flumes and dams in Kane county; Joel H. Johnson, Pres.; John F. Brown, Vice-Pres.; Herbert E. Riggs, Treas., and W. T. Stewart, Secy.

Manti Irrigation & Reservoir Co., Manti, Utah; $12,500; to appropriate the water of Funk's Lake for irrigation; Andrew Christenson, Pres.; G. B. Cox, Louis C. Kjar.

Little Lake Irrigation Co., Los Angeles, Cal.; $11,520; to acquire rights to the water of the New San Gabriel River; John Paddison, W. N. Orr.

Thistle Reservoir Co., Thistle, Utah; $30,000; to control the waters of Lake Forest Creek; H. M. Dougall, Pres., Springville; H. J. Young, Secy.-Treas., Salt Lake City.

Big Ditch Irrigation Co., Millcreek, Utah; $25,000.

Cram & Van Leuven, Water Co., East Highlands, Cal.; $144,000; to furnish water for domestic and irrigation purposes; L. F. Cram, A. M. Aplin, East Highlands; A. E. Sterling, Redlands; J. F. Pevice, Milwaukee, Wis.

Badger Irrigating Co., Campbell, Cal.; $20,000; A. Vollmer, J. J. Cornell, W. B. Evans, E. W. Potter.

Pine River Irrigation & Power Co., Durango, Colo.; $100,000; to operate in La Platta county; John M. Morgan, A. Gottlieb, C. T. Morgan, M. H. Schmelzer.

Valles Land Co., Albuquerque, N. Mex.; $100,000; to construct irrigation ditches, wagon roads, etc.; T. B. Catron, Santa Fe.

Haight Creel Irrigation Co., Kaysville, Utah.; $40,000; J. H. Lunford, Pres.; H. W. Haight, Vice-Pres.; J. W. Dailey, Secy. and Treas.

SEWERAGE.

CAMBRIDGE, MASS.—The legislature has been asked to grant this city authority to incur an indebtedness of $400,000 for new sewers. Alderman W. F. Spalding and L. M. Hastings, Cy. Engr.

EVERETT, MASS.—The council has voted to issue $25,000 in bonds for sewers. Bids for the purchase of the bonds are wanted. C. Harrison, Cy. Engr.; J. H. Cannell, Cy. Clk.

FOXBORO, MASS.—The state board of health has approved the plans for a system prepared by J. J. Van Valkenburg, South Framingham, Mass.

LYNN, MASS.—The town of Swampscott has directed this city to abate the Stacey Brook sewage nuisance. The city proposes to build a covered conduit from the pond which feeds the brook flowing in the ocean; estimated cost, $40,000. Mayor Shepherd may be addressed.

MELROSE, MASS.—It is proposed to spend $10,000 for extending the system.

TAUNTON, MASS.—The council has voted to appropriate $50,000 for extending the system.

WOODBRIDGE, MASS.—Waring, Chapman & Farquhar, 874 Broadway, New York, have submitted plans for the proposed system.

GREENWICH, CONN.—J. J. Horan, Stamford, Conn., has been awarded the contract for building sewers at about $25,000. The only other bid was received March 8 from Jno. O. Merritt, Port Chester, N. Y. S. E. Minor may be addressed.

NEW LONDON, CONN.—Bids are asked until April 6 for building about 700 ft. of 24-in. wooden submerged sewer and for furnishing the materials and for laying 4,155 ft. of 24 to 12-in. vitrified pipe and 850 ft. of 8-in. salt-glazed pipe sewers, as stated in our advertising columns. W. H. Richards, Engr. Bd. Sewer Comrs.

PORTLAND, CONN.—The Portland Sewer Co. has asked for a charter to build a system here. A. H. Hale, Dr. C. A. Sears and Dr. J. A. Webb may be able to give information.

BUFFALO, N. Y.—Bids are asked until March 22 for constructing an 8-ft. 10-in. × 7-ft. 6-in. and 5-ft. 3-in. brick sewer in Van Rensselaer St., and also a 3-ft. brick sewer. R. G. Parsons, Secy. Bd. Pub. Wks.

ISLIP (L. I.), N. Y.—An election will probably soon be held to vote on the question of issuing $3,000 in bonds for a 2-ft. 6-in. brick sewer in Main St. Eugene R. Smith, Engr., Islip.

MOUNT VERNON, N. Y.—Mr. Henderson, of Westchester, has introduced a bill to provide for a commission to inquire into the expediency of constructing sewers through the counties of New York and Westchester along the Bronx River and Hutchinson River. Under the bill the mayors of New York, Yonkers and Mount Vernon, the chairman of the Westchester board of supervisors, and three residents of New York or Westchester county are to be appointed, and to report to the legislature of 1900. New York City and Westchester county are authorized to spend $10,000 for surveys and maps.

MOUNT VERNON, N. Y.—Bids are asked until March 21 for constructing pipe sewers in three streets. E. W. Fiske, Mayor; W. N. Hoyt, Cy. Clk.

PLAINFIELD, N. J.—Bids are asked until April 3 for furnishing the materials and for constructing pipe sewers, branches, connections, etc., as described in our advertising columns. A. J. Gavett, Engr.-in-Charge, Plainfield; J. T. MacMurray, Cy. Clk.

ALLEGHENY, PA.—John Carson & Co. and Ott Bros. & Co. have been awarded the contracts for building sewers in Shady Ave. and in Anna St. at $3,142 and $1,228, respectively.

MOORES, PA.—W. C. B. Gilmour, Burgess of Prospect Park, writes us that contracts for building the system for the Park have been let. The work will cost about $11,000.

SCRANTON, PA.—Bids are asked until March 23 for constructing sewers in the 5th district. M. T. Lavelle, Cy. Clk.

CLARKSBURG, W. VA.—The question of building a system is being considered.

HIGHPOINT, N. C.—The council has engaged Surveyor Richardson, of Greensboro, N. C., to prepare plans for a system and water-works to cost about $50,000.

ATLANTA, GA.—It is proposed to build pipe sewers in certain streets. W. D. Greene, Cy. Clk.

NEW ORLEANS, LA.—A. Brittin, Pres. City Council, writes us that a vote of the city is expected to be taken in about a month on the question of issuing not less than $12,000,000 in bonds for a sewerage system, drainage system and improvements to the water-works. It is believed the proposition will be carried. There will be some delay before plans can be prepared, so that the work will not likely be commenced until next year. A. C. Bell, Cy. Engr.

PULASKI, TENN.—We are informed that this city has secured permission to build a system.

EAST CLEVELAND, O.—Bids are asked until March 31 for constructing sewers in several streets. Walter P. Rice Engineering Co., Society for Savings Bldg., Cleveland. H. B. Chapman, Clk.

NILES, O.—Wm. Wilson, Cy. Engr., writes us that the contract for building the Robbins Ave. pipe sewer has been let to R. & S. H. De Groodt, of Youngstown, O., at $8,859. It is stated that the other bids were as follows: Vetter & Heasley, Youngstown, $10,466; Davis & Caldwell, Youngstown, $12,918; Werick, Nessley & Williams, Springfield, $11,572; Campbell Bros., Cleveland, $14,102; V. Mango, Niles, $11,177; McCourt & Davidson, Akron, $11,103.

SANDUSKY, O.—Bids are asked until April 15 for building a branch sewer in Fulton St. A. W. Miller, Cy. Clk.

AUBURN, IND.—J. J. Van Auken, Cy. Engr., writes us that it is proposed to build 10 miles of 36 to 8-in. pipe sewers at a cost of $30,000. Specifications will not be prepared for some time.

ELKHART, IND.—The council is said to have decided to build two miles of sewers in Riverside. It is also proposed to build sewers in five streets.

WHITING, IND.—Bids are asked until April 3 for furnishing the materials and for building about 2½ miles of pipe and a mile of 3 to 2-ft. brick sewers. J. G. Erdlitz, Town Clk.

WARSAW, IND.—The Mayor writes us that the city is considering the question of building a system.

ANN ARBOR, MICH.—It is proposed to build storm sewers in certain streets to cost $10,000.

MARSHALL, MICH.—This place will vote in April on a proposition to bond the city to the amount of $25,000 for the construction of main sewers in accordance with plans of Riggs & Sherman, 613 The Nasby, Toledo, O.

CHICAGO, ILL.—A bill has been introduced into the legislature authorizing the drainage of the sewer of the Calumet district in the Drainage Canal. Estimated cost, $4,000,000.

CHICAGO, ILL.—It is proposed to construct a main outfall sewer in Lawrence Ave., between the river and Jefferson Park, to cost $200,000.

OTTUMWA, IA.—We are informed that surveys have been made for 6,000 ft. of 4 × 5-ft., 3-ft. 5-in. and 6 × 5-ft. brick sewers in South Ottumwa. The West Mill St. sewer is also to be built in 1899. There will be about 4,000 ft. of 5-ft. 5-in. × 4 ft. of brick sewer.

FAIRMONT, MINN.—The question of building a system is being considered.

MINNEAPOLIS, MINN.—Bids are asked until March 31 for building 19,757 ft. of 66-in. brick to 12-in. pipe sewers. L. A. Lydiard, Cy. Clk.; G. W. Sublette, Cy. Engr.

SLEEPY-EYE, MINN.—Plans for a system to be built this season are being prepared by M. B. Haynes, 201 South Front St., Mankato, Minn.

ST. PAUL, MINN.—Bids are asked by the board of public works for building sewers in two streets.——It is proposed to build a system in Hamline at a cost of $37,000. Alderman Allard, of the 10th Ward, may be addressed.

INDEPENDENCE, KAN.—We are informed that about two miles of sewers will be built here soon. J. B. Underhill, Cy. Clk.

CARROLLTON, MO.—J. E. Lynn, Secy. Improvements Com., writes us that the city will likely let the contract about April 15 for building the proposed sewers and for paving, for which $50,000 in bonds were recently voted. Bids for the purchase of the bonds are also wanted. Hiram Phillips, Consult. Engr., 525 Lincoln Trust Bldg., St. Louis, Mo.

BROOKFIELD, MO.—E. E. Ward, Mayor, writes us that this city will vote April 4 on the question of issuing $13,500 in bonds for a system.

LEAD, S. DAK.—It is proposed to build a system to cost about $50,000. Andrew Rosewater, Engr., Bee Bldg., Omaha, Neb.

SEATTLE, WASH.—Bids are asked until March 18 for constructing sewers in certain streets. Frank Oleson, Secy. Bd. Pub. Wks.

WALLA WALLA, WASH.—The Commercial Club will petition the council to build a new system to cost about $150,000.

CORVALLIS, ORE.—The question of building a system is again being considered, according to reports.

OREGON CITY, ORE.—H. H. Johnson, Cy. Engr., has submitted plans for a system for the hill district, to cost $10,600. C. H. Caulfield, Chn. Com.

SACRAMENTO, CAL.—It is stated an ordinance has been passed by the trustees calling for the construction of a system, high school and other municipal improvements. The estimated cost of the system is $120,000.

WALLACE, IDAHO.—The question of issuing $15,000 in bonds for completing the system will be voted upon soon.

GALT, ONT.—The question of building a system is being considered.

PRESCOTT, ONT.—Bids are asked until March 25 for building a system and water-works. Jno. Galt, Canada Life Bldg., Toronto and Ottawa, Engr.; John Raney, Secy.

GARBAGE DISPOSAL—STREET CLEANING

PROVIDENCE, R. I.—Bids are asked until March 30 for collecting and removing the garbage of the city for five years from May 1. Horace Remington, Chn. Health Com.; W. E. Clark, Secy.

BRIDGEPORT, CONN.—The council has decided to adopt the system of the Dixon Crematory Co., Findlay, O. The plant is to be given a three-months' test at 35 cts. a ton, and is to cost not more than $12,500.

ALBANY, N. Y.—Bids are asked until March 20 for removing the street soil for one year. T. J. Lanahan, Clk.

COHOES, N. Y.—The question of securing a disposal plant is being considered. Alderman Clark and Dr. Mott, of the Health Bd., may be addressed.

NEW YORK, N.Y.—Bids are asked by the department of parks, the Arsenal, Central Park, until March 23 for furnishing three road sprinkling wagons and three sprinkling carts.

UTICA, N. Y.—Justice Wright has decided that the contract of the city with Henry Stappenbeck for disposing of the garbage for 10 years at $6,500 a year is valid. The contractor will proceed at once to build a plant, which will be in operation June 1.

WASHINGTON, D. C.—Our correspondent sends us this information regarding street cleaning: The following provision has been inserted in the District bill: Unless a contractor can be found who will do the work for 22 cts. or less a 1,000 sq. yds. for both machine and hand work the work shall be done by day labor. There is also a provision that the contractor shall pay the same rate for labor as does the district, $1.25 a day. The contractor has been paying $1.00.

WHEELING, W. VA.—R. K. Giffin and Geo. Hook, of the R. K. Griffin Reduction Co., have submitted a proposition to the city for the disposal of the night soil and garbage of the city.

ATLANTA, GA.—The board of health has rejected the bids received March 3 for garbage disposal. Bids were received from the following: John W. Welch, New York, Thackery crematory; Dixon Crematory Co.; the Dennis Crematory Co., Atlanta, representing the Lestel crematory; Venable Bros., Atlanta. It is probable that a contract will be made with the Dennis Crematory Co., it having submitted a proposition before bids were asked.

CANTON, O.—Local papers state that the council is considering propositions for street cleaning.

LAFAYETTE, IND.—S. J. Hannagan writes us that the matter of erecting a crematory has not taken definite shape yet.

DES MOINES, IA.—The council is considering the question of putting in a new crematory. The present one was built in 1890.

HOUSTON, TEX.—Alex. Potter, 137 Broadway, New York, has been retained to prepare plans for a disposal plant, etc. J. A. Miller, Cy. Engr.; S. H. Brashear, Mayor.

GALVESTON, TEX.—The following bids were received March 6 for collecting the garbage for one year: Ed. Ketchum, $21,500; Suderman & Dolson, $14,800; J. R. Alexander, $14,985; Wiley Nichols, $22,250. The bids have been rejected and the work will be done under the direction of the health officer and of the city engineer. The Parlin-Orendorff Co. has submitted a proposition to build two crematories at a cost of $15,000.

STREETS AND ROADS

BOSTON, MASS.—The metropolitan park commissioners received the following bids March 6 for constructing the Blue Hills Parkway: Rowe & Hall, Boston, $106,324; Cogan Bros. & Forschner, Atlantic, $97,933; T. Stuart & Son, Newton, $93,000; P. H. Fitzgerald, New London, Conn., $86,366; Dennis F. O'Connell, Boston, $85,640; T. H. Gill & Co., Somerville, $83,964; James J. Welch & Co., Salem, $81,226; Mirick & Wentworth, Malden, $80,628; Joseph D. Gennaro, Boston, $79,733; Coleman Bros., Charlestown, $79,690; Bell & Co., Boston (accepted), $69,221.

GLOUCESTER, MASS.—Orders have been passed by the council to macadamize three streets, at a cost of $5,500.

FALL RIVER, MASS.—Bids will soon be asked by the superintendent of streets for furnishing 125,000 paving blocks and 12,000 ft. of granite curb. The committee has voted to appropriate $5,000 for concrete paving.

LYNN, MASS.—Olmstead Bros. have submitted plans to the metropolitan park commission, Boston, for the proposed boulevard between Lynn and Swampscott. The legislature has not yet granted the petition.

ORANGE, MASS.—The town has voted to appropriate $3,000 for macadamizing.

MIDDLETOWN, CONN.—The street commissioner has introduced in the council plans and estimates for the macadamizing of streets, to cost $83,000, and a proposition to issue that amount of bonds has also been presented.

ALBANY, N. Y.—Bids are asked until March 20 for furnishing and laying plank walks, brick paving and sewers in two streets. Thos. J. Lanahan, Clk. Bd. Contract.——A petition will be presented to the council for paving on Lexington Ave.

BRIGHTON, N. Y.—A contract has been awarded to Gillette & Gillette, Rochester, N. Y., at $10,500, for 2½ miles of road work on East Ave.

BROOKLYN, N. Y.—Contracts have been awarded to Hann & Phillips, at $23,921 and $55,251, for grading and paving on the Beverly Road and Ocean Ave.

BUFFALO, N. Y.—Bids are asked until March 21 for paving and masonry on Smith St. Edward B. Guthrie, Ch. Engr. Grade Crossing Comn., 436 Ellicott Square Bldg.——Bids are asked until March 22 for constructing and repairing natural and artificial stone sidewalks. R. G. Parsons, Secy. Bd. Pub. Wks.

DANSVILLE, N. Y.—It has been voted to appropriate $1,000 for macadamizing.

FALLSBURG, N. Y.—The Fallsburg & Grahamsville Turnpike Co. has been incorporated, with a capital stock of $20,000, by W. H. H. Hoar, Grahamsville; R. D. Clark, South Fallsburg, and others.

NEW YORK, N. Y.—Bids are asked by the department of parks, Arsenal, Central Park, until March 23, for a 12-ton steam road roller.

CAMDEN, N. J.—L. E. Farnham, Cy. Engr., writes us that the contracts for $200,000 worth of asphalt paving have been adjusted and withdrawn from court. A. Ward & Co., Camden, and the Vulcanite Paving Co., of Philadelphia, have about equal parts of the yardage. Ordinances lately passed call for about $70,000 worth of asphalt paving this season and one street of brick.

EGG HARBOR CITY, N. J.—The board of freeholders will inspect the proposed new road from Egg Harbor City to Lower Bank, April 27.

HACKENSACK, N. J.—C. V. W. Fonda has been engaged by the trustees of Franklin township to supervise the laying of 30 miles of macadam roads, for which $70,000 has been voted.——The senate has passed a bill appropriating $150,000 for the improvement of roads.

PATERSON, N. J.—Bids are asked until March 20 for brick and asphalt paving on a number of streets. Thos. McLean, St. Comr.——Wm. Ferguson, Cy. Engr., writes us that under a recent act of the legislature the city was authorized to spend $100,000 each year for 10 years in paving streets. Last year eight streets were placed under contract for asphalt and brick pavement, but none were finished on account of a delay in starting work. This year nine additional streets will be put under contract for brick and asphalt, five for brick and four for asphalt. Bids will be solicited in about a month.

WOODBURY, N. J.—A contract has been awarded to J. R. Shanley, of Philadelphia, at $6,500, for macadamizing on Broad St.

SHARON, PA.—A petition is being circulated to pave East State St.

WASHINGTON, D. C.—The following appropriations have been made for streets and roads: Construction of county roads and suburban streets, $130,000; repairs of streets, $180,000; sidewalks and curbs around public reservations and buildings, $15,000; repairs to county roads, $60,000; a road from Brightwood Ave. across Rock Creek Park, $16,500; grading and paving 19th St. extended, $12,000; work on streets and avenues in the city, $182,000.

WASHINGTON, D. C.—A contract for paving B St. with brick for three blocks has been awarded to Lyons Bros.

RICHMOND, VA.—The council has passed resolutions for the improvement of about 30 streets.

STATESVILLE, N. C.—It is reported that a bill will be presented to the legislature to authorize the issue of $100,000 of bonds for road work. C. H. Armfield, County Attorney.

GREENVILLE, MISS.—The question of paving Washington and Walnut Sts. is being considered. Estimates have been made on brick, at $30,000, and chert, at $25,000.

MORRISTOWN, TENN.—B. F. Stubblefield informs us that a bill has been sent to the legislature for permission to vote on the question of issuing $50,000 for a new turnpike.

BATAVIA, O.—Jno. W. Davis, County Audr., informs us that the following bids were received March 1 for road work: A. M. Jeffries, Batavia, $888, one-half mile turnpike; J. F. Hill, Owensville, O., $2,196, one mile; T. T. Bigam, Newtonsville, O., $1,000, one-half mile; W. O. Fileger, Williamsburg, O., $782, one-half mile; J. E. Parvin, Nine Mile, O., $538, one-half mile; J. W. Miller, Point Pleasant, O., $1,168, one mile.

BELLEFONTAINE, O.—Bids are asked until April 28 for paving Court Ave., 738 sq. yds., brick, 448 lin. ft. of curb, and Main St., 1,240 sq. yds., brick, 4,440 lin. ft. of curb. M. J. Nichols, Cy. Clk.

CINCINNATI, O.—Bids are asked until April 8 for crushed stone on the approaches of the California bridge. E. L. Lewis, County Audr.

CLEVELAND, O.—Plans have been adopted for the extension of the proposed Lakewood Boulevard, north of Detroit St., from Highland Ave. to Clifton Park, Rocky River.

GALION, O.—C. H. Briggs, Mayor, informs us that there will probably be some paving done during the summer.

JACKSON, O.—Bids are asked until April 1 for the purchase of $100,000 of 4% turnpike bonds. O. P. Schellenger, County Audr.

MARION, O.—J. W. Scott, Cy. Engr., informs us that it is proposed to pave one street and lay out a public park. J. I. Beatty, Clk.

MOUNT VERNON, O.—It is proposed to construct asphalt paving and sewers in Gambier St. this spring.

SANDUSKY, O.—Bids are asked until March 29 for furnishing the material and relaying sidewalks for one year. A. W. Miller, Cy. Clk.——A contract has been awarded to the Ayres Asphalt Paving Co., Zanesville, O., for paving on Central Ave. and Jackson St.

YOUNGSTOWN, O.—A resolution has been passed to improve Himrod Ave., between Fruit and Oak Sts. F. C. Brown, Cy. Clk.

BEDFORD, IND.—David C. Dehority & Co., Elwood, Ind., was awarded a contract March 3, at $48,375, for constructing pike roads in Shawswick township.

FORT WAYNE, IND.—The board of works has been petitioned to pave Dock St. with brick.

MARION, IND.—Bids are asked until March 21 for paving on Third St. C. G. Robbins, Cy. Clk.

MONON, IND.—Bids are asked by the town board until March 23 for macadamizing about two miles of streets.

PAOLI, IND.—The county commissioners have purchased the New Albany and Paoli turnpike and will establish a free road.

PORTLAND, IND.—The council has ordered the paving of nine squares of streets with brick, at a cost of $20,000, according to reports.

RISINGSUN, IND.—The county has voted to construct 16 miles of free gravel roads, at an estimated cost of $46,000.

WINDFALL, IND.—The town trustees have awarded a contract to Minnick, Gaddis & Dingle, of New Castle, at $15,000, for constructing four brick streets.

BENTON HARBOR, MICH.—Bids are asked until March 20 for sheet asphalt paving on Pipestone St. R. P. Chaddock, Cy. Clk.

JACKSON, MICH.—It is proposed to grade and repair portions of 11 streets.

SAGINAW, MICH.—The question of paving Lapeer St. with asphalt or brick and Jane St. with brick or macadam is being considered.

CHICAGO, ILL.—The board of local improvements will expend $10,303,522 for street construction this year, including granite, asphalt, brick, cedar block and macadam paving. Contracts will be let within ninety days, amounting to $9,343,000. The work now under contract amounts to $960,522.

JOLIET, ILL.—Bids are asked until March 20 for asphalt paving; estimated cost, $141,229, for which bids were rejected March 6, according to reports. G. W. Brown, Cy. Engr.

KEWANEE, ILL.—John C. Quade, Cy. Engr., writes us that the council, at its meeting March 6, passed an ordinance, upon recommendation of the board of local improvements, for the paving of the entire business district of said city; estimated cost, about $50,000. The pavement to be upon a 6-in. concrete foundation, and a course of brick laid on edge. Contracts will not be awarded until after the city election, which will be early in May.

RUSHVILLE, ILL.—The question of paving the square will probably be voted upon at the election in April. Geo. Dyson, Chn. Com.

WAUKESHA, WIS.—William Powrie, Cy. Engr., writes us that the council, March 7, approved the report of the board of public works for the improvement and paving with brick of Broadway, Madison, Clinton and South Sts., at a total estimated cost of $41,441, divided as follows: Broadway, $26,598; Clinton St., $3,895; Madison St., $6,208; and South St., $4,739.

SIOUX CITY, IA.—Bids are asked until March 21 for 7,500 sq. yds. of asphalt and 19,000 sq. yds. of brick paving. J. M. Lewis, Acting Cy. Engr.

ST. PAUL, MINN.—Bids are asked until March 16 for a bicycle path on Pleasant Ave. Matt Jensen, Cy. Clk.——Bids are asked until March 20 for asphalt paving on Cedar St. C. H. Bronson, Clk. Bd. Pub. Wks.

NEBRASKA CITY, NEB.—Bids are asked until March 27 for 500,000 vitrified paving brick. A. M. Munn, Cy. Engr.

CARROLLTON, MO.—Bids are asked by J. E. Lynn, Secy. Improvement Com., until April 15, for the purchase of $50,000 of bonds and for constructing paving and sewers. Hiram Phillips, Engr., Lincoln Trust Bldg., St. Louis.

KANSAS CITY, MO.—Bids are asked until March 18 for curbing. Henry A. Wise, Cy. Engr.

KANSAS CITY, MO.—The park board is considering plans for the proposed Admiral boulevard and park system; estimated cost, about $300,000.

MOBERLY, MO.—H. V. Estell, Cy. Engr. and Supt. Water-Wks., writes us as follows: "The only work contemplated this year is putting in 4,266 sq. yds. double course brick pavement and 3,220 ft. brick curb. Bids will be advertised the first week in April. We are using brick curb in residence streets; the size of curb is 4 × 8 × 14 ins., laid on end. We put down three miles of this curb last year. The cost to us was 12½ cts. per 10 ft. laid. It has proved a success. This town is the first to manufacture and lay brick curb for streets."

SPOKANE, WASH.—A hearing will be given by the county commissioners March 28 on the proposed new Medical and Lake Cheney Road.

SAN FRANCISCO, CAL.—The question of paving Valencia St., from 13th to 28th St., at an estimated cost of $53,000, is being considered by the Mission Business Men's Association. L. A. Sauc, Pres.; E. S. Harrison, Secy.

SAN FRANCISCO, CAL.—Portions of nine streets will be improved with artificial stone sidewalks, etc. M. F. Fragley, Supt. Sts.

UKIAH, CAL.—Bids are asked until April 9 for constructing a county road between Orr's Springs and Half Way House. Hale McCowen, Clk.

WINNIPEG, MAN.—Bids are asked until March 22 for furnishing the whole or any part of the machinery for the establishment of an asphalt plant; also until April 5 for furnishing 330 tons of asphalt and six dump wagons. C. J. Brown, Cy. Clk.

CORNWALL, ONT.—About $3,500 will be expended this season, according to reports. T. W. Wiggins, Town Engr.

TORONTO, ONT.—It is reported that the city engineer has recommended the paving of certain streets with macadam, to cost about $10,942, and with brick, at a cost of $33,258.

MANUFACTURING PLANTS.

WINN, ME.—It is reported that Senator N. M. Jones and others will erect a new pulp mill at Winn, on the Penobscot River, to cost about $300,000.

BENNINGTON, VT.—The storehouse of the Valentine Knitting Co. was destroyed by fire March 8; reported loss, $50,000.

WESTERLY, R. I.—Reports state that the American Thread Co. has decided to complete the Wm. Clark Co.'s plant in this city, which will double its present capacity. Wm. Clark, Jr., Gen. Mgr.

LOCKPORT, N. Y.—L. Huston & Sons will convert the old 4-story Niagara mill, 60 × 20 ft., into a cold storage plant.

PITTSBURG, PA.—The Westinghouse Machine Co. has decided to increase its capital stock from $1,500,000 to $3,000,000, and reports state that the capacity of the company's present plant will be doubled.

BALTIMORE, MD.—The stock and machinery of Rennous, Meinlee & Co., brush manufacturers, 413 to 417 Exchange Place, was damaged by fire March 9; reported loss, $60,000.

DECATUR, ALA.—Press reports state that A. Strauss & Co., New York, have purchased the site of the United States Rolling Stock Co. and will erect thereon a new cotton mill to cost about $500,000.

DETROIT, MICH.—Reports state that Frederick Stearns & Co. will erect a 2-story building, 165 × 330 ft., at Bellevue and Jefferson Sts., to cost about $200,000.

INGALLS, MICH.—It is reported that Edward O'Keefe, T. W. Orbison and P. W. Thorn, paper mill contractors, of Appleton, Wis., are making surveys at White Rapids for the erection of the largest paper mill in the Northwest; estimated cost, $500,000.

CHICAGO, ILL.—W. J. Moxley, manufacturers of butterine, will erect a new $100,000 factory building at Randolph and Clinton Sts., according to reports.——The Pan Confection Co., 225 Kinzie St., will soon erect an 8-story office and factory to cost about $85,000. V. C. Price, Pres.; S. N. Crowen, Arch., 85 Dearborn St.

MILWAUKEE, WIS.—Plans are being prepared for a new 6-story factory building to be erected on 4th St. for Romadka Bros., trunk manufacturers; estimated cost, $30,000. Crane & Barkhausen, Archs., 89 Wisconsin St.

ARKANSAS CITY, KAN.—A. J. Hunt, Chas. A. Johnson and others are said to be interested in the construction of a 5-story flour mill in this city to cost $35,000.

BRITTANIA, ONT.—It is reported that J. L. Whitcomb, of the New York Paper Co., is arranging for the construction of large paper mills at Brittania; estimated cost, $200,000.

NELSON, B. C.—A syndicate, of which C. W. McArthur, Denver, Colo., is president, is about to erect sampling works in this city, to have an outside capacity of 150 tons a day.

GAS PLANTS.

PITTSBURG, PA.—Reports state that the Westinghouse Electric & Mfg. Co., of East Pittsburg, has asked bids for the construction of a fuel gas plant.

MEMPHIS, TENN.—The New Memphis Gas Light Co. proposes to improve its plant and extend its mains this season, according to reports.

CLEVELAND, O.—Bids are asked until April 7 for maintaining 4,000 18-c. p. street gas lamps for one year. Geo. R. Warden, Dir. Pub. Wks.

COLUMBUS, O.—The Federal Gas & Fuel Co. has applied to the county commissioners for a franchise to lay mains on the road from Groveport to Columbus. D. H. Kimberley and Chas. O. Evarts, of Cleveland, are interested.

CALUMET, MICH.—N. W. Beatley and others are reported to have applied to the council for a franchise to construct and operate a plant; population, about 6,500.

ST. LOUIS, MO.—Reports state that a bill has been presented to the legislature to grant a franchise to J. C. Jones, J. R. Manewahl and John Boyden, to construct a plant.

DARLINGTON, OKLA.—We are informed that a contract has been let to the Matthews Gas Machine Co., 36 Dearborn St., Chicago, at $2,025, for installing a 250-light capacity gasoline gas plant, at the Arapahoe school, of the Cheyenne and Arapahoe agency.

NEW WHATCOM, WASH.—It is reported that the B. B. Gas Co. proposes to expend about $15,000 for the manufacture of gas from crude petroleum.

CHICO, CAL.—The Chico Gas Co. has awarded a contract to L. P. Lowe, Pasadena, Cal., at $10,000, for installing a Lowe water-gas plant. G. H. Taylor, Supt.

SAN FRANCISCO, CAL.—The Equitable Gas Light Co. has awarded a contract to F. W. Kern, at $3,240, for a purifying plant, according to reports.

STRATFORD, ONT.—We are informed that the proposed improvement of the Stratford Gas Co.'s plant will include new condensers, scrubbers, exhauster and rearrangement of purifying boxes; also a new station meter and street main governor; estimated cost, $4,500. L. L. Merrifield, Engr., 269 Frost St., Toronto.

NEW COMPANIES.—Rutherford & Suburban Electric Light & Gas Co., Rutherford, N. J.; $200,000; Cornelius Fitzgerald, Rutherford; Wm. E. R. Smith, East Orange.

United States Acetylene Gas Co., Oakland, Cal.; $40,000; to deal in acetylene gas machines; Frank C. Howe, W. O. Badgley, Chas. W. Merrill.

Westchester Gas & Coke Co., Mount Vernon, N. Y.; $200,000; to furnish gas to towns in Westchester county, including New Rochelle, Pelham, Mamaroneck and other places; Thomas R. Hodge, Mount Vernon; Thomas L. Holmstrom, Long Island City; L. B. Grant, Brooklyn; Thomas S. White, New York.

De Ruyter Gas Co., De Ruyter, N. Y.; $5,000; to manufacture and supply gas; M. C. Tallen, A. W. Francis.

New York Suburban Gas Co., Mount Vernon, N. Y.; $1,500,000; the consolidation of the East Chester Gaslight Co., Pelham Gaslight Co., Westchester Gas & Electric Co., and the Larchmont Gas Co.; William Carpenter, Francis Crawley, Edmund Penfold, of New York; Eugene Vanderpool, Newark; and E. H. McCullough, Philadelphia.

Berea Grit Oil Co., Steubenville, O.; $3,200.

Kentucky Acetylene Co., Kelat, Ky.; $1,500; to deal in acetylene gas machines.

Harrison Oil & Gas Co., Scio, O.; $10,000.

St. Clairsville Oil & Gas Co., St. Clairsville, O.; $10,000.

MISCELLANEOUS CONTRACTS.

DRY-DOCK.—Portsmouth, N. H.—A bill has been passed by Congress appropriating $1,000,000 for a stone dry-dock.

WHARF.—Santa Barbara, Cal.—This city will construct an iron wharf, to cost about $60,000, according to reports.

STEAM LAUNCH.—Boston, Mass.—Bids are asked until April 3 for constructing a steam launch. Col. Chas. R. Suter, U. S. Engr.

CANAL WORK.—Raywood, Tex.—Bids are asked for cleaning and grubbing 1½ miles of canal for the Raywood Rice, Canal & Milling Co.,

TELEPHONE LINE.—Westfield, N. J.—The New York & New Jersey Telephone Co. will construct a trunk line from Roselle to Bound Brook, according to reports.

TELEPHONE LINE.—Alma, Mich.—The Union Telephone Co. will construct a line from Saginaw to Alma and other places. C. F. Brown, Secy., Alma.

TUNNEL.—Scranton, Pa.—The Lehigh Valley Coal Co. has awarded a contract to D. J. Roderick, of Scranton, for driving a tunnel in the Hazleton colliery 4,000 ft.

ARMOR PLATE.—Washington, D.C.—Press reports state that the government will soon ask for bids for furnishing 23,000 tons of armor-plate for the new battleships.

PIER.—Sea Isle City, N. J.—The Ocean City Pier Co. will construct an iron pier 1,200 ft. long and two pavilions, to cost from $25,000 to $30,000, according to reports.

BEACH GRAVEL.—Boston, Mass.—Bids are asked until March 21 for furnishing beach gravel for the street department from March 27, 1899, to Feb. 1, 1900; bond, $3,000.

DREDGING.—Buffalo, N.Y.—Bids are asked until March 21 for dredging in the Buffalo River, Buffalo Harbor, Blackwell Canal and Peck Slip. R. G. Parsons, Secy. Bd.

STATUES.—Cumberland, Md.—Governor Lowndes will appoint a commission to invite designs for statues of Chas. Carroll and John Hanson, for which the legislature has appropriated $25,000.

DITCH AND BRIDGE BONDS.—Bellefontaine, O.—Bids are asked until April 7 for purchasing $20,000 of ditch bonds and $10,000 of bridge bonds of Logan county. C. D. Campbell, County Audr.

BANK GRAVEL AND SAND.—Boston, Mass.—Bids are asked until March 20 for furnishing bank gravel and sand from March 27, 1899, to Feb. 1, 1900; bond, $2,000. Benj. W. Wells, Supt. of Sts.

CEMENT PLANT, ETC.—Findlay, O.—The Findlay, Fort Wayne & Western Ry. Co. will construct a stone crushing, lime and cement plant, according to reports. B. W. Fenton, Ch. Engr., Findlay.

LEVEE.—Columbus, O.—The board of public works has approved a contract with the Cleveland, Cincinnati, Chicago & St. Louis Ry. Co. for the construction of a levee embankment to protect the west side.

HARBOR WORK.—Honolulu, H. I.—The navy department has awarded contracts to Campbell & Buckman for dredging, and to Cotton Bros. & Co., Oakland, Cal., for constructing docks, at the new naval station.

MACHINERY.—Sacramento, Cal.—J. F. Cooper, Pres. Capital & Sacramento Transfer & Van Co., wants catalogues and addresses of manufacturers of auto-mobile motors, furniture van motors, and vehicle motors.

GUN FORGINGS.—Washington, D.C.—Bids are asked by the war department until March 24 for furnishing five 10-in., 15 12-in. gun forgings, and 38 12-in. mortar forgings. Brig.-Gen. D. W. Flagler, Ch. of Ordnance.

PARK WORK.—New Orleans, La.—The park commissioners are considering the question of improving Audubon Park. It is proposed to construct a lagoon from 250 to 350 ft. wide and 8 or 10 ft. deep around the outskirts.

STEAMSHIPS. — San Francisco, Cal. — The American-Hawaiian Steam Navigation Co. will soon let contracts for three steamships, each 415 ft. long, 52 ft. beam and 8,500 tons capacity. Geo. S. Dearborn, Pres., of Dearborn & Co., New York.

LOCK GATES, ETC.—Cairo, Egypt.—Reports state that the Egyptian public works department requires four pairs of lock gates and quoins, sils, etc. Information may be had by application to the commercial department of the foreign office, London, England.

RETAINING WALLS.—Oneida, N. Y.—Bids are asked until March 23 for constructing retaining walls on each side of the Oneida feeder canal, from Messenger to Cedar St., as stated in our advertising columns. John N. Partridge, Supt. Pub. Wks., Albany.

DAM AND WEIRS.—Cincinnati, O.—Bids are asked until April 12 for constructing dam No. 6, Ohio River, 168 ft. of Chanoine dam and three spans of wiers, as described in our advertising columns. Wm. Martin, Res. Engr., Bellevue, Pa.; Maj. W. H. Bixby, U. S. Engr., Cincinnati.

LEVEE WORK.—West Memphis, Tenn.—Bids are asked by the St. Francis Levee Board until April 17 for constructing 11 miles of new levee from Holtbee Bayou south to the upper end of the Walnut Bend levee, as stated in our advertising columns. J. B. Driver, Pres.; H. R. McVeigh, Secy.

PIERS.—New York, N. Y.—J. A. Bensel, Ch. Engr., Dept. of Docks and Ferries, Pier A, North River, has prepared plans for the new piers between Gansevoort St. and the market, and from the northern boundary of the market to 23d St. The new piers are designed to accommodate the largest vessels afloat.

TRAP ROCK.—Yonkers, N. Y.—Bids are asked until March 17 for furnishing and delivering about 5,000 cu. yds. of broken trap rock, sizes 1-in. and ½-in., and screenings, in boatload lots, as required during the season of 1899, alongside the Yonkers public dock. S. L. Cooper, Comr. Dept. Pub. Wks., 9 Dock St.

CULVERTS.—Chicago, Ill.—Bids are asked until April 18 for constructing foundations for seven arch culverts and for constructing nine pipe culverts, under the feeder of the Illinois & Mississippi Canal, as stated in our advertising columns. Asst. Engr., L. L. Wheeler, Rock Falls, Ill.; Maj. W. L. Marshall, U. S. Engr., 1637 Indiana Ave., Chicago.

TELEGRAPH LINE.—Dawson, N. W. Ter.—It is stated that construction of the proposed telegraph line from this place to Skaguay, a distance of about 800 miles, will soon be begun. Estimated cost, $150,000. Frank Richardson, Asst. Elec. Engr., Canadian Pacific Ry., and M. Grimes, of the Dept. of Pub. Wks., Ottawa, Ont., have the work in charge.

PIERS.—Brooklyn, N. Y.—The department of docks and ferries has awarded a contract to Gildersleeve & Rolf, at $91,633, for constructing two new wooden piers in the Wallabout Basin. The other bidders were: Wm. H. Jenks, $118,493; Farrell & Hopper, $117,270; R.P. & J. H. Staats, $109,858, and Henry L. Spearin, $99,985.——The chief engineer has recommended that Pier No. 1, North River, be extended at a cost of about $35,000.

TERMINAL FACILITIES.—New York, N. Y.—The board of directors of the Pennsylvania R. R. Co. has reported that improvements are necessary to increase the pier and other terminal facilities at Harsimus; to provide additional storage tracks at the Meadows and other points, and to elevate the tracks at the Kensington Yard. Additions are also needed to terminal facilities at Brooklyn and Williamsburg and to floating equipment in New York harbor.

RIVER AND HARBOR BILL.

The following are the appropriations of the River and Harbor Bill, passed by the 55th Congress, for harbor work, dredging, breakwater construetion, etc.; the appropriations for improvements to the rivers and canals will be given next week: Maine—Moosabec Bar, completing improvement, $11,000; breakwater, from Mount Desert to Porcupine Island, continuing improvement, $20,000; Sullivan Falls harbor, $5,000; Carvers Harbor, Vinalhaven, continuing improvement, $15,000; harbor at Cape Porpoise, $70,000; New Hampshire—refuge at Little Harbor, continuing improvement, $12,000; Vermont—harbor at Burlington, continuing improvement, $15,000; Massachusetts—Boston Harbor, $75,000, continuing improvement; also for a channel 1,230 ft. wide and 30 ft. deep from the main ship channel in Presidents Roads through Broad Sound Channel, $450,000; harbor at Nantucket, $20,000, continuing improvement; harbor at Newburyport, $25,000; continuing improvement; Plymouth, maintenance, $10,000; repairing made necessary by the storm of November, 1898, $75,000; Provincetown, maintenance, $10,000; Scituate, maintenance and repairs, $15,000; Hyannis, completing improvement, $2,162; Manchester, $5,000; Vineyard Haven, completing improvement, $3,000; Sandy Bay, Cape Ann, continuing improvement, $150,000; Gloucester, continuing improvement, $40,000; Marblehead, repairs to sea wall, $2,000; Duxbury, repairs to harbor, $12,000; New Bedford, continuing improvement, $10,000; also to complete channel east of Fish Island, $34,000; Chatham, completing improvement, $3,733; Woods Hole Channel, continuing improvement, $20,000; Fall River, improving harbor, $20,000; Rhode Island—Block Island, continuing improvement and maintenance, $10,000; Newport, continuing improvement, $15,000; Great Salt Pond, Block Island, completing improvement, $50,000; Sakonnet Point, completing improvement, $25,000; Connecticut—Bridgeport, continuing improvement, $50,000; also to complete improvement, $250,000; New Haven, improving harbor, $50,000; also to make a channel 20 ft. deep through Long Island Sound from Tomlinson's Bridge, $295,000; harbor at Five-Mile River, continuing improvement, $2,500; Stamford, continuing improvement, $6,000; Norwalk, maintenance, $2,000; New York—Buffalo, maintenance, $75,000; improvement of Buffalo entrance to Erie Basin and Black Rock Harbor, $50,000; also for completing the improvement, $198,114; Charlotte, maintenance, $7,000; Great Sodus Bay, maintenance, $14,000; Little Sodus Bay, maintenance, $5,500; Ogdensburg, continuing improvement, $15,000; Oswego, continuing improvement, $60,000; New York Harbor, maintenance, $100,000; making a deep channel 2,000 ft. wide and 40 ft. deep from the Narrows by the East Channel across Sandy Hook Bar to the open sea, $1,000,000; also to complete the work, $3,000,000; Bay Ridge Channel and Red Hook Channel, N. Y. H., continuing improvement, $200,000; also to complete the work, $2,400,000; Tonawanda Harbor, and Niagara River, continuing improvement, $75,000; Saugerties, maintenance, $2,500; Wilson, continuing improvement, $2,500; Portchester Harbor, enlarging channel, $25,000; completing improvement, of channel between Staten Island and the New Jersey shore, N. Y. and N. J., $32,000; Huntington, continuing improvement, $7,500; Port Jefferson Inlet, continuing improvement, $7,500; Gowanus Creek channel, continuing improvement, $25,000; Peekskill, continuing improvement, $10,000; Wallabout channel, completing improvement, $40,000; Mamaroneck, continuing improvement, $7,000; Pultneyville, maintenance, $2,000; Mattituck, continuing improvement, $5,000; Cape Vincent, improvement to harbor, $25,000; Larchmont, continuing improvement, $50,000; New Jersey—Raritan Bay, continuing improvement, $65,000; Keyport Harbor, maintenance, $2,500; Pennsylvania—Erie, continuing improvement, $125,000; Pittsburg, completing improvement, $110,662; Delaware— harbor at Wilmington and Christiana River, continuing improvement, $45,000; also for removing rock from the channel, $205,780; Virginia—Cape Charles City, continuing improvement, $20,000; Milford Haven, completing improvement, $12,000; North Carolina—Cape Lookout, for surveys for harbor of refuge, $5,000; South Carolina—Charleston Harbor, improving, $175,000; Georgia—Brunswick, outer bar, contract with C. P. Goodyear to deepen outer bar to 24 ft.; also to make surveys for obtaining 26 ft. and a width of 200 ft., $5,000; maintenance of inner harbor, $10,000; Savannah, maintenance, $50,000; Darien, continuing improvement, $10,000; Doboy Bar, improving, $70,000; Florida—Apalachicola Bay, improving and maintenance, $20,000; Pensacola, continuing improvement and maintenance, $70,000; Miami, on Biscayne Bay, for surveys for obtaining 18 ft. of water, $5,000; Key West, continuing improvement, $25,000; Charlotte Harbor and Pease Creek, completing improvement, $25,000; Carrabelle Bar and Harbor, continuing improvement, $10,000; Tampa Bay, from entrance into the Gulf of Mexico to Port Tampa, $75,000; also for a channel of 27 ft. from the Gulf to Port Tampa and of a width of 500 ft. across the bar and 300 ft. in the bay, $675,000; Hillsboro Bay, improving, $125,000; Alabama—Mobile, continuing improvement, $100,000; also for a channel 23 ft. deep and 100 ft. wide at the bottom, $500,000; Mississippi—Ship Island Pass, dredging a channel through the Pass with a depth of 26 ft., $40,000; Gulfport to Ship Island Harbor, to dredge a channel 300 ft. wide and 19 ft. deep from the Ship Island Harbor anchorage on the Gulf of Mexico to Gulfport, Harrison county, and to build an anchorage basin not less than 2,640 ft. by 1,320 ft. in area, $150,000; Louisiana—continuing improvement of mouth and passes of Calcasieu River, $35,000; improving outlet of the Mississippi River by constructing a sill across Pass a Loutre and by constructing two dredges, $200,000; also for continuing the improvement, $300,000; also to make a report and estimates for a channel of 35 ft. depth throughout the Southwest Pass of the Mississippi River, $20,000; Texas—Galveston Harbor, maintenance, $50,000; commencing improvement of the water route from the mouth of the jetties at Galveston through the existing ship channel and up Buffalo Bayou to and including harbor at Houston, Tex., $300,000; also for continuing the improvement and building two dredges, $2,000,000; mouth of the Brazos River, dredging, $85,000; for extending jetties 1,000 ft., $115,000; also to make a report for extending the jetties a half mile; Galveston Harbor to Texas City, to deepen the channel north of Pelican Island to a depth of 25 ft. and 100 ft. wide at the bottom, $250,000; Aransas Pass, dredging, $60,000; Sabine Pass, Texas and Louisiana, straightening, widening and otherwise improving the main ship channel by removing oyster reefs, mud flats, etc., $150,000; Corpus Christi and Padre Island Harbor, Tex., to construct a deep water harbor, time to commence construction extended to commence two years from Feb. 9, 1899; Ohio—Ashtabula, continuing improvement, $50,000; also to complete the improvement, $430,000; Black River, Lorain, continuing improvement, $50,000; also to complete the improvement, $600,000; Cleveland, dredging between the government piers, $75,000; Conneaut, continuing improvement, $100,000; Fairport, continuing improvement, $100,000; Huron, continuing improvement, $25,000; Sandusky, continuing improvement, $80,000; Port Clinton, continuing improvement, $6,000; Toledo, constructing a straight channel through Maumee River and Bay 400 ft. wide and 21 ft. deep, $150,000; also to complete the improvement, $800,000; Indiana—Michigan City, improving outer harbor,

$195,000, exclusive of a sum heretofore appropriated; continuing improvement of inner harbor, $7,500; Illinois—Waukegan, maintenance, $5,500; Chicago Harbor, continuing improvement, $100,000; Calumet Harbor, continuing improvement, $150,000; also to complete the improvement, $859,000; Michigan—Charlevoix, harbor and entrance to Pine Lake, Michigan, continuing improvement, $15,000; Frankfort, continuing improvement, $35,000; Grand Haven, continuing improvement, $10,000; Grand Marais, continuing improvement, $25,000; Manistee, continuing improvement, $20,000; Holland, Black Lake, improving harbor, $37,500; Monroe, continuing dredging of channel, $5,000; Muskegon, continuing improvement, $60,000; Pentwater, continuing improvement, $25,000; Portage Lake, harbor of refuge, continuing improvement, $75,000; also to complete improvement, $85,000; Sand Beach, improving harbor of refuge, $50,000; also for completing the improvement, $200,000; St. Joseph, improving harbor, $50,000; also to complete improvement $330,000; South Haven, completing improvement, $45,000 White Lake, continuing improvement of harbor, $35,000 Marquette, continuing improvement, $25,000; Ludington, improving harbor, $25,000; Petoskey, continuing improvement, $20,000; Saugatuck, continuing improvement, $7,000; Menominee, Mich. and Wis., maintenance, $5,500; Cheboygan, continuing improvement, $8,000; Presque Ile Point, Marquette Bay, Mich., completing improvement, $30,000; Wisconsin—Ahnapee, continuing improvement, $13,000; Green Bay, continuing improvement, $28,600; Kenosha, improving harbor, $50,000, of which $3,000 may be used for maintenance; also to complete improvement, $141,000; Kewaunee, maintenance, $8,800; Milwaukee, continuing improvement, $50,000; also to complete improvement, $105,650; also for maintenance, $14,000, for deepening the channel of Milwaukee Harbor, $12,000; Port Washington, maintenance, $4,400; Racine, widening and deepening harbor and for correcting the funnel-shaped entrance, $50,000; also to complete improvement, $67,650; Sheboygan, maintenance, $3,400; improving harbor by building a breakwater, $25,000; also for completing the improvement, $52,000; Ashland, continuing improvement, $35,000; harbor at Two Rivers, maintenance, $8,000; Sturgeon Bay Canal, harbor of refuge, maintenance, $5,500; Oconto, continuing improvement and maintenance, $15,000; Sturgeon Bay and Lake Michigan ship canal, continuing improvement, $30,000; Manitowoc, maintenance, $3,300; La Crosse, continuing improvement, $12,000, provided the city constructs sewers across the area to be filled in, so as to discharge outside of the projected bulkhead; Minnesota—Grand Marais, completing improvement, $30,000; Agate Bay, completing improvement to harbor, $71,708; California—Alviso Harbor, Santa Clara county, $48,000; San Diego, continuing improvement, $65,000; San Luis Obispo, continuing improvement, $55,000; Humboldt, continuing dredging of the inner harbor, $50,000; San Francisco, to remove Arch Rock and Shag Rocks Nos. 1 and 2, all to a depth of 30 ft. below mean water, $100,000; also to complete the improvement, $500,000; Oregon—Tillamook Bay and Bar, continuing improvement, $25,000; mouth of Siuslaw River, continuing improvement, $30,000; entrance to Coos Bay and Harbor, continuing improvement, $150,000; Washington, Olympia Harbor, continuing improvement, $15,000; Everett Harbor, continuing improvement, $50,000; also to complete improvement, $342,000; Hawaii—Pearl Harbor, completing improvement, $100,000.

CONTRACT PRICES.

WATER DEPARTMENT SUPPLIES.—St. Paul, Minn.—The following contracts were let by the water commissioners, Feb. 24, 1899, for furnishing supplies for the use of the department during the year: Meters, Pittsburg Meter Co., Pittsburg, Pa., $8 each; Crane-Ordway Co., St. Paul, 100, $6.35; Western Supply Co., St. Paul, pure soft pig lead, eight tons, $4.44 a 100 lbs.; Windsor Mfg. Co., Milwaukee, Wis., lead pipe, 20 tons, $5.10 a 100 lbs.; block iron, 500 lbs., $26 a 100; R. D. Wood & Co., Philadelphia, fire hydrants, No. 1, 20, $26.90 each; No. 2, five, $31.90 each; South St. Paul Park Foundry & Machine Co., St. Paul, valve boxes, 4-in., 20, $6.50 each; 6-in., 20, $10; 8-in., $16; 12-in., five, $30; 16-in., $54; 20-in., $93; 24-in., $143; 30-in., $275 each; St. Paul Foundry Co., manhole covers, $6 each; street sprinkling hydrants, $11.50 each; South Park Foundry, special castings, $34 a ton of 2,000 lbs., and is to purchase the scrap iron at $8.50 a ton, estimated at 10 tons; Crane-Ordway Co., brass goods of various sizes, 30 to 65 cts. each; McFeyen, St. Paul, hauling, 47 cts. a ton for the city, 98 cts. for the country; Bingham & Taylor, Buffalo, valves of various sizes, $5.02 to $9.80 each; Crane-Ordway, stop boxes, with privilege of 250 additional, $2 each. John Caulfield, Secy. Water Comrs.

LAYING WATER MAINS.—Amsterdam, N. Y.—The following bids were received March 1 for laying about five miles of water mains, as advertised in Engineering News: J. R. Snell, Supt. Water-Wks.; S. E. Babcock, Consult. Engr., Little Falls, N. Y.; if awarded the whole contract M. R. Grannis offers discount of 2½% off bid, and the Troy Public Works Co. offers 5% off:

BIDS RECEIVED AT AMSTERDAM, N. Y., MARCH 1, 1899, FOR LAYING WATER MAINS.

Hann's Conduit, No. 1.

Quantities.		A. Coster.	M.R. Grannis.	Troy (N. Y.) Public Wks.Co.	T.H. Dumary.	G. W. Van Vranken, Albany.	Hanlon & Bros.	A. M. Banker.
24-in. cast-iron pipe	3,508 lin. ft.	$0.60	$0.72	$0.80	$1.25	$1.00	$0.55	$0.60
20-in. " "	108 " "	.58	.30	.70	.75	1.00	.50	.60
12-in. " "	60 " "	.55	.20	.60	.40	1.00	.20	.50
6-in. " "	60 " "	.75	.15	.30	.25	.50	.25	.50
Excavation and embankment	3,000 cu. yds.	.44	.25	.35	.25	.35	.30	.50
Rock excavation	10 " "	3.00	1.50	2.00	2.50	3.00	1.00	5.00
Rubble masonry	273 " "	5.50	5.00	5.00	7.00	7.00	6.25	5.50
Concrete	20 " "	6.50	6.00	5.00	7.00	6.50	5.00	5.00
Rip-rap	150 " "	3.00	.75	2.00	3.50	1.50	2.50	1.25
Dry rubble	5 " "	3.00	4.00	4.00	5.00	5.00	5.00	3.00
Puddling	20 " "	.55	.80	1.00	2.00	1.00	1.00	1.25
Rough ashlar	178.5" "	6.00	8.25	9.00	10.00	11.00	8.50	10.00
Coping	13.1" "	21.00	24.00	15.00	30.00	25.00	23.00	28.00
Grubbing	3 acres	200.00	50.00	10.00	25.00	25.00	35.00	1.25
Mucking	475 cu. yds.	.50	.25	.35	.50	.25	.30	.40
Sheet piling	22,500 ft. B.M.	25.00	22.00	20.00	20.00	35.00	25.00	40.00
Setting valve rods		.25	.50	.10	.25	6.00	.50	1.00
Spruce	8,500 ft. B.M.	25.00	22.00	20.00	20.00	30.10	25.00	40.00
Setting sluiceway valves	9 each	9.00	7.00	10.00	3.00	6.00	5.00	4.00
Wrought iron	500 lbs.	.10	.06	.05	.10	.05	.10	.05
Setting standards		4.00	2.50	2.00	2.00	5.00	2.00	1.00
Gate house		825.00	365.00	200.00	150.00	500.00	400.00	500.00
8-ft. weir		30.00	35.00	25.00	50.00	50.00	70.00	50.00
Total		$9,648	$6,980	$7,542	$10,318	$11,253	$8,553	$13,132

Hann's Conduit, No. 2.

Quantities.		A. Coster.	M. R. Grannis.	Troy Pub.Wks. Co.	T. H. Dumary.	Hanlon & Bro.	A. M. Banker.
36-in. cast-iron pipe	500 lin. ft.	$0.86	$1.00	$2.00	$2.00	$1.12	$2.50
24-in. " "	6,380 " "	.76	.70	1.00	1.25	.56	2.50
20-in. " "	60 " "	.60	.35	.80	1.00	.55	1.25
18-in. " "	48 " "	.58	.33	.70	1.00	.50	1.75
24-in. " " fountain line	490 " "	.76	.70	1.00	1.25	.56	1.25
6-in. " "	60 " "	.75	.15	.30	.30	.25	.50
15-in. vitrified pipe	4,000 "	.40	.25	.10	.75	.56	.75
Rock excavation	35 cu. yds.	3.00	1.50	2.00	2.50	1.00	5.00
Concrete	10 " "	6.50	5.00	5.00	7.00	5.00	5.00
Dry rubble masonry	5 " "	3.00	3.00	4.00	5.00	5.00	3.00
Rip-rap	20 " "	3.00	.75	2.00	3.50	2.50	1.25
Rough ashlar	90 " "	5.75	7.00	9.00	10.00	8.50	10.00
Sheet piling	2,480 ft. B.M.	25.00	24.00	20.00	20.00	25.00	40.00
Spruce	1,000 " "	25.00	24.00	20.00	20.00	25.00	40.00
Coping	14 cu. yds.	21.00	24.00	15.00	30.00	24.00	20.00
Wooden racks		.40	.04	.04	.03	.05	.40
36-in. valve		3.00	10.00	10.00	10.00	15.00	10.00
Setting sluiceway valves	7 each	6.00	5.00	10.00	5.00	5.00	4.00
Wrought iron	1,000 lbs.	.10	.06	.05	.10	.10	.05
Excavation	1,300 cu. yds.	.55	.30	.35	.50	.35	.75
Rubble masonry	137 " "	5.50	4.00	5.00	7.00	6.00	5.50
Puddling	10 " "	.55	.80	1.00	2.00	1.00	1.25
Total		$10,123	$8,588	$10,919	$15,285	$9,504	$23,887

The following are the lowest bids on the remainder of the work; (1) being for M. R. Grannis, (2) for Baker & Judson: Conduit—36-in. pipe, 1,898 ft., (1) $1.10, (2) $1.25 a lin. ft.; 24-in. pipe, 518 lin. ft., (1) 56 cts., (2) 85 cts.; dry rubble wall, 250 cu. yds., (1) $3.75, (2) $3; rubble top wall in mortar, 40 cu. yds., (1) $4.75, (2) $6; concrete in place, 10 cu. yds., (1) $5.50, (2) $6.00; quarry stone, slope and pavement wall, 92 + yds., (1) $3, (2) $3.50; rough ashlar masonry, 45 + yds., (1) $7.50, (2) $10; puddling, 25 yrs. (1) 80 cts., (2) $1; coping, 4 cu. yds., (1) $24, (2) $15; sheet piling, 1,000 ft., (1) $24, (2) $40; total, $4,317 and $4,764, respectively. Market St. main, (1) being for Hanlon & Bro. and (2) for A. M. Banker: 20-in. pipe, 3,870 lin. ft., (1) 53 cts., (2) 49 cts.; 18-in. pipe, 1,896 ft., (1) 46 cts., (2) 40 cts.; 14-in. pipe, 60 ft., (1) 90 cts., (2) 40 cts.; 6-in. pipe, 60 ft., (1) 35 cts., (2) 35 cts.; 4-in. pipe, 36 ft., (1) 25 cts., (2) 35 cts.; setting hydrants, 2, each, (1) $5, (2) $5; setting valves, 6, each, (1) $5, (2) 2.50; totals, (1) $3,000, (2) 2,693. Locust Ave. main, (1) being for the Troy Public Works Co. and (2) for A. M. Banker: 18-in. cast-iron pipe, 3,624 lin. ft., (1) 55 cts., (2) 50 cts.; 16-in. pipe, 1,800 ft., (1) 45 cts., (2) 40 cts.; 14-in. pipe, 60 ft., (1) 40 cts., (2) 40 cts.; 6-in. pipe, 90 ft., (1) 30 cts., (2) 35 cts.; 4-in., 60 ft., (1) 20 cts., (2) 35 cts.; 4-in. pipe., 60 ft., (1) 20 cts., (2) 35 cts.; setting hydrants, 3, each, (1) $5, (2) $5; setting valves, 10, (1) $5, (2) $2.50; totals, (1) $2,931, (2) $2,649. The bids of M. R. Grannis and the Troy Public Works Co. give a discount of 2½ and 5%, respectively, if the whole contract is awarded to either of them.

WATER PIPE.—Windsor, N. Y.—M. A. Tompkins, Village Clk., informs us that the following bids were received Feb. 27, 1899, for furnishing water pipe for the proposed works, as advertised in Engineering News; contract was awarded M. J. Drummond & Co.; the bid of Fox & Engel was withdrawn before the contract could reach them:

Bidder.	Cast-iron pipe: 4-in., 143 tons.	Cast-iron pipe: 6-in., 96 tons.	Cast-iron pipe: 8-in., 112 tons.	Special castings, tons, a lb., cts.
Fox & Engel, New York	$20.20	$18.40	$18.40	1.97
M. J. Drummond & Co[1]	19.60	19.00	19.00	2.0
C. Millar & Son, Utica	19.65	19.65	19.65	2.0
R. D. Wood & Co., Phila.	20.90	20.90	20.90	2.0
Warren Fdry & Mch.Co.[1]	21.00	21.00	21.00	2⅛
Am. Pipe Foundry Co.[2]	22.40	22.40	22.40	2.0
Addyston Pipe & St'l Co.[3]	26.90	24.90	24.90	2½

[1]New York. [2]Chattanooga, Tenn. [3]Cincinnati, O.

BULKHEAD WORK.—Savannah, Ga.—The following bids were received Feb. 14, 1899, for dredging, pile driving and bulkhead work on Hutchinson's Island, Savannah, for the Georgia & Alabama Terminal Co., as advertised in Engineering News; Maj. A. H. Johnson, Ch. Engr., Georgia Construction Co., Savannah; work will be begun by April 1, and is to be completed by Nov. 1; the entire work under the contracts let to W. W. Hegeman & Co., Pittsburg, will amount to about $400,000:

Bidder.	Dredging, a cu.ft., cts.	Piling, a lin.ft., cts.	L... ber a M. ft.
W. J. Danaker, New York	13.5	16.25	$18.00
W.F.Patterson & Sons,Washgtn	11.0	17.25	17.00
G. Wilkins, Atlanta, Ga.	....	21.65	19.66
R. P. & J. H. Staats, New York	19.4	17.0	23.09
Albert Hussey, New York	25.0	....	....
Gude & Walker, Atlanta, Ga.	....	18.0	20.50
Hardaway, Jones & Co., Balt.	....	15.9	20.70
P. Sanford Ross, Jersey City	20.03	17.0	23.98
Hammond,Davis& Co.,Savannah	....	15.9	16.48
Alex. N. Stewart, St. Louis	....	18.5	22.00
Sanford Brooks, Baltimore	12.5	23.0	24.00
Douglas & Frich, Baltimore	....	22.75	18.38
Jas. F. McCabe, Baltimore,	....	22.0	21.75
Jas. von Eberstein, Savannah	....	25.0	22.17
J. J. Ryan & Co., Philadelphia.	....	23.0	24.00
Rittelhouse R. Moore	22.7	....	....
Ferguson Contracting Co., N.Y.	....	20.0	19.25
Drake & Stratten Co., Phila.	....	18.75	24.70
Hegeman & Co., Pittsburg	13.5	16.5	19.50
J. W. Skinner, Wilmington	....	28.5	27.00
Stewart Con. Co., Savannah	19.0	17.25	23.95

BROKEN STONE, ETC.—Fort Hamilton, N. Y. H.—We are informed that the following bids were received March 1, 1899, by Maj. H. M. Adams, U. S. Engr., Army Bldg., Whitehall St., New York, for furnishing broken stone, cement and sand, as advertised in Engineering News:

Bidder.	Broken stone, 21,000 c.yds.: Limestone.	Broken stone, 21,000 c.yds.: Trap.
Calvin Tomkins, 120 Liberty St., New York	$0.779	....
Jacob E. Conklin, 135 Front St., New York	....	$0.84
John S. Lane & Son, Guttenburg, N. J.	....	.87
John A. Bouker, 110 Wall St., New York	....	.89
E. K. Chamberlin, 2 Cortlandt St., N. Y.	.925	....
Chas. Frey, Jr., 411 4th Ave., New York	.95	1.05

Bidder.	Sand, 11,000 cu.yds.
Harry Goodwin, foot 29th St., New York	$0.34
Long Island Sand Co., 11 Broadway, New York	.37¾
Phoenix Towing & Trans. Co., 129 Broad St.	.39
E. F. Rendt, 312 13th St., Brooklyn, N. Y.	.79

Bidder.	Cement, 25,000 bbls., a bbl.
George J. Haney, Perth Amboy, N. J.	$1.73
Glens Falls Port. Cem. Co., 156 5th Ave., N. Y.	1.96
Atlas Cement Co., 143 Liberty St., New York	1.99
Hiram Snyder & Co., 229 Broadway, New York	2.03

BRICK PAVING.—Washington, D. C.—A. Y. Lakeman, Ch. Clk., Engineers' Department, informs us that the following bids were received March 4, 1899, for brick paving on B St., N.W., between 9th and 12th Sts., as advertised in Engineering News:

Bidder.	Removing old rubble, etc., a sq. yd.	Laying brick pavement, a sq. yd.	Resetting granite curb, a yd.
Lyons Bros., Washington	$0.08	$0.98⅞	$0.11
Alcatraz Pvg Co., Philadelphia	.18	1.25	.25
Washington Asp. Blk & Tile Co	.12	1.25	.12
M. F. Talty, Washington	.18	1.19	.15

SEWER MATERIALS.—Meriden, Conn.—W. S. Clark, Cy. Engr., informs us that the following bids were received March 2, 1899, for furnishing sewer materials, to be delivered at ditch; this city constructs its sewer by day labor, contracting for material only; on iron castings the following bids were also received: Sessions Foundry Co., Bristol Conn., 1.14 cts. a lb; the Baush & Harris Machine Co., Springfield, Mass., 1⅝ cts.:

Quantities.		J. Kane & Son.	H. Wales Lines Co.
20-in. surface water pipe	1,700 lin. ft.	$0.4211	$0.3890*
18-in. " " "	700 " "	.3099	.2900*
15-in. " " "	1,400 " "	.2261	.2225*
12-in. " " "	500 " "	.1529	.1555*
12-in. sewer pipe	3,400 " "	.1569*	.1604
10-in. " "	1,350 " "	.1219	.1219*
8-in. " "	8,500 " "	.0819*	.0848
6-in. standard pipe	100 " "	.0545	.0515*
4-in. " "	100 " "	.0379	.0355*
Extra Y's, 20x12-in.	12 each	1.07	.9410*
" " 18x12-in.	2 "	.7699	.72*
" " 12x6-in.	230 "	.4007*	.3915
" " 10x6-in.	90 "	.3169	.3055*
" " 8x6-in.	575 "	.2241*	.2250
Brick	130,000	8.01	7.73*
Rosendale cement	540 bbls.	.95	.92*
Iron castings	28,000 lbs.	.0133	.0123*
Manhole steps	425 each	.1395*	.14
Cast-iron pipe	3,000 lbs.	.0122	.0109*
Total, approximate		$1,500	$3,500

*Awarded contract.

RAILWAY BRIDGES.—Rutland, Vt.—We are informed that the following bids were received March 4, 1899, for constructing bridges on the line of the Rutland-Canadian R. R., J. W. Burke, Ch. Engr., South Hero, Vt., and 45 Broadway, New York; all bids are for price a lb. erected in place; contract awarded Edge Moor Bridge Works:

Bidder.	Bridges, Draw: Riveted work, 997,500 lbs.	Bridges, Draw: Machinery, 36,300 lbs.	Bridges, Draw: Iron castings, 41,400 lbs.	Bridges, Draw: Steel castings, 24,300 lbs.	Bridges, Fixed: Riveted work, 579,000 lbs.
King Bridge Co.	$3.80	$10.00	$5.00	$6.00	$3.80
N. J. Steel & Iron Co.	3.78	7.10	6.00	9.00	3.78
Berlin Iron Bridge Co.	3.77	8.00	6.50	8.00	3.75
Elmira Bridge Co., Ltd.	3.75	7.00	6.00	8.50	3.75
Rochester B. & I. Works.	3.72	6.80	5.625	9.00	3.67
Edge Moor Bridge Works	3.66	7.10	6.00	9.00	3.63

MANHOLE COVERS.—Steelton, Pa.—The following bids were received Feb. 28, 1899, for furnishing cast-iron manhole covers: Sessions Foundry Co., Bristol, Conn. (accepted), $23.80 a ton; F. B. Hawkins & Co., New York, $24.80; A. J. Drummond & Co., $27.00; Reading Foundry Co., Ltd., Reading, Pa., $30.

PIPE SEWERS.—Plainfield, N. J.—We are informed that the following bids were received March 13, 1899, for furnishing the material and labor for substituting cast-iron pipe sewers for vitrified pipe sewers in a wet section of the city; about 2,290 ft., about 8 ft. deep; contract was awarded C. M. Meeker; A. J. Gavett, Engr.-in-Charge; E. T. Barrows, Chn. Com.:

Bider.	Cast-iron sewer. 12-in.	10-in.	4-in. c.-i. house conns.	15-in. under-drain.
C. M. Meeker, Plainfield	$1.03	$0.96	$0.45	$0.53
P. Christmas, Plainfield	1.05	1.10	.45	.47
A. Costa, Orange, N.J...	1.20	1.00	.45	.54
A.P. Hamblin, E.Orange	1.30	1.25	.45	.72

QUARRYING STONE, ETC.—Washington, D. C.—A. Y. Lakeman, Ch. Clk., Engineers Department, informs us that the following bids were received March 4, for quarrying stone, etc.; as advertised in Engineering News:

Bids Received at Washington, D. C., March 4, 1899, for Quarrying Stone, Etc.

Bidder.	2-in. size: At railroad.	2-in. size: Ground at quarry.	Finer sizes: R. R. cars ready for shipment.	Finer sizes: Ground at quarry.	Loading on R. R. cars at quarry.
J. Jacoby & Co., Wilmington Del.	$0.80	$0.70	$0.80	$0.70	$0.15
John Donaldson, Richmond Hill, L. I., N. Y.	1.25	1.25	1.25	1.25	.20
The Broadhead Contracting Co., Easton, Pa.	.86	.88	1.05	1.07	.25
Daniel A. Leonard, 42 Builders' Exchange, Baltimore..	.89	1.14	.89	1.14	1.14
J. F. Killeen, 3327 P St., Washington, D. C.	.69½	.80	.69½	.80	.12½
Sam'l H. Walker and John Van Nostrand, Washington..	1.35	1.42½	1.45	1.52	.10
Standard Lime & Stone Co.,524 Equitable Bldg,Baltimore	.70	.70	.70	.70	.05
John P. Conkling, 44 Broadway, New York	1.14	1.14	1.14	1.14	.45

TRUNK SEWER.—Cincinnati, O.—We are informed that the following contract was let to P. N. Jonte, 134 East Court St., by the board of city affairs on March 3, 1899, for constructing a trunk sewer in Bates, Stock and Massachusetts Sts.:

2½-ft. brick sewer	240	lin. ft..	$1.75
3-ft. " "	871	" "	2.30
3½-ft. " "	275	" "	2.50
7-ft. " "	2,358	" "	7.60
7½-ft. " "	951	" "	6.80
7¾-ft. " "	533	" "	6.80
8-ft. " "	195	" "	6.80
8½-ft. " "	837	" "	8.30
6-in. pipe sewer	500	" "	.26
12-in. " "	10,640	" "	.75
15-in. " "	4,320	" "	.85
18-in. " "	3,290	" "	1.00
21-in. " "	786	" "	1.40
24-in. " "	1,412	" "	1.65
36-in. iron pipe	48	" "	5.00
Y's for 12-in. pipe sewer	730	each...	.36
" 15-in. " "	340	...	.55
" 18-in. " "	250	" ...	.75
" 21-in. " "	60	" ...	1.50
" 24-in. " "	100	" ...	2.00
6-in. slants	500	" ...	.15
12-in. "	4	" ...	.40
18-in. "	5	" ...	1.00
21-in. "	4	" ...	1.75
24-in. "	14	" ...	2.25
Catchbasins, Plan A	32	" ...	45.00
Palmer inlets	30	" ...	40.00
Round manholes on pipe sewer..	34	" ...	30.00
Oval manholes	126	" ...	25.00
Manholes on brick sewer	24	" ...	30.00
Rock-faced masonry	27	cu. yds.	9.00
Uncornered rubble masonry	1,150	" "	2.50
Concrete	285	" "	2.50
Brick masonry for haunches...	365	" "	5.00
Coping	88	sq. ft...	1.00
Total			$72,459

The other bids on the work were as follows: J. M. Peter, $82,714; J. W. Sullivan, $92,065; L. Drach, $82,972; McCarren & Dawson, $73,803; Queen City Construction Co., $83,168; A. J. Henkel & Bros., $82,063; David Folz Asphalt Paving Co., $92,759; Delaney & Broemann, $88,-452; George Ashman, $82,736; Henry Frank, $81,999; G. P. Walker, $74,944; Van Sandt & Meeds, $77,475; H. Dieckmeier, $86,719; T. J. Peter, $77,329; Joseph Strack, $73,757; J. E. Mahoney, $89,460; M. T. Flynn, $94,685, and A. J. Wellman, informal.

PAVING.—Geneva, N. Y.—Edward Seybolt, Supt. Bd. Pub. Wks., informs us that the following bids were received Feb. 20, for brick and asphalt paving, as advertised in Engineering News:

Bids Received at Geneva, N. Y., Feb. 20, 1899, for Brick and Asphalt Paving.

Items and quantities.		J. K. Campeau, Olean, N. Y.	F. R. Spaulding, Bethlehem, Pa.	†Whitmer, Rauber & Vicinus, Rochester, N. Y.	Sullivan & Graham, Columbus, O.	Barber Asphalt Co., New York.	Rock Asphalt Co., Rochester, N. Y.
Excavation	8,650 cu. yds.	$0.30	$0.27	$0.20	$0.25	$0.30	$0.32
Brick paving	16,250 sq. yds.	1.97	1.80	1.80	1.90	....	....
Medina paving	1,400 " "	3.10	2.60	2.55	2.70	2.85	2.62
Asphalt paving	16,250 " "	3.00	....	1.75	....	1.89	1.97
6-in. curb	4,800 lin. ft..	.60	.65	.68	.70	.70	.67
4-in. curb	2,050 " "	.52	.55	.48	.60	.60	.56
Protection curb		...	.65	.58	.50	.70	.38
3-in. drain tile	1,500 lin. ft..	.10	.12	.09	.10	.10	.08
12-in. " " a lin. ft.		.45	.42	.50	.35	.47	.58
15-in. " " "		.51	.50	.65	.40	.57	.68
18-in. " " "		.60	.59	.76	.45	.67	.78
5-year guarantee, per year		20.00	50.00	10.00	15.00	1.00	75.00
10-year. " " "		30.00	200.00	10.00	500.00	245.00	175.00
15-year. " " "		50.00	.....	148.33	1,000.00	245.00	275.00
Catchbasins	13 each...	45.00	25.00	35.00	35.00	50.00	36.00
Total, for asphalt		$44,959*	$41,445*	$35,939*	$43,330	$39,488	$40,186

*Totals for brick. †Total brick, $40,794. There were 17 kinds of brick bid on; prices ranged from $1.75 to $1.97 on 6-in. concrete foundation.

GARBAGE DISPOSAL.—Atlanta, Ga.—The following bids for garbage disposal were received March 3, 1899: The Dennis-Lester Crematory Co., Atlanta, to burn night soil and garbage combined, 35 cts. a ton, 100 tons a day to be burned; the plant of this company was built some time ago and the city given a two weeks' trial; Venable Bros., Atlanta, the refuse to be conveyed on either the Georgia or Seaboard Air Line Ry. to Stone Mountain; night soil, 48 cts. a ton; garbage, 39 cts.; Dixon Crematory Co., Findlay, O., first proposition, to erect one or two disposal plants in the center of the city or any location acceptable to the city and burn the garbage for 50 cts. a ton and the night soil for 70 cts.; if city wishes to purchase the plants the company offers a rebate of 20 cts. a ton, the rebate to go towards paying for the plants; second proposition, to take charge of the collection and disposal of the garbage for 90% of the total price paid out for the same by the city last year; Thackery Incineration & Fertilizing Co., San Francisco, Cal., to burn garbage, 48 cts. a ton, night soil 55 cts.; capacity of plant, 200 tons a day; if city wishes to purchase after six or 12 months the company will sell at net cost and a small royalty per ton during life of plant. All the bids were rejected and a new proposition from the Dennis-Lester company will probably be considered.

WATER PIPE.—Evansville, Ind.—The following bids were received March 6, 1899, for furnishing water pipe, etc.: Dennis, Long & Co., Louisville, Ky., cast-iron pipe, $20.10 a ton; castings, 2¼ cts. a lb.; American Pipe & Foundry Co., Chattanooga, Tenn., pipe, $19.40; castings, 2 cts.

PAVING, ETC.—Topeka, Kan.—Contracts for paving North Jackson St. have been let as follows: H. I. Cook, paving, $1.14 9-10 a sq. yd.; P. H. Gill, curbing, 55 cts. a lin. ft.

LAYING WATER PIPE.—Chicago, Ill.—We are informed that the following bids were received March 1, 1899, for laying water-service pipe: Daniel Hordin, 217 31st St., 73 cts. a ft.; J. H. Roche, 230 31st St., 58.5 cts.; P. Becker & Co., 1100 W. 21st St., 38.5 cts. (awarded contract); total, $517.

PARKWAY.—Boston, Mass.—The Metropolitan Park Commission received the following bids March 6 for constructing the Blue Hills Parkway, from Brook Road to Canton Ave., the contract was let on March 8 to Bell & Co.; Wm. T. Pierce, Ch. Engr.:

Bids Received at Boston, Mass., March 6, 1899, for Constructing the Blue Hills Parkway.

Quantities.		Rowe & Hall, Boston.	Cogan Bros. & Forschner, Atlantic.	T. Stuart & Son, Newton.	P. H. Fitzgerald, New London, Ct.	Dennis F. O'Connell, Boston.	T. H. Gill & Co., Somerville, N.J.	J. J. Welch & Co., Salem.	Mirick & Wentworth, Malden.	Jos. D. Gennaro, Boston.	Coleman Bros., Charlestown.	Bell & Co., Boston.
Grading: Earth	29,000 cu. yds.	$0.46	$0.40	$0.32	$0.27	$0.35	$0.29	$0.29	$0.32	$0.33	$0.30	$0.21
Rock	1,000 " "	2.01	2.50	1.50	1.20	1.75	1.25	1.50	1.00	1.25	1.25	1.00
Filling	50,000 " "	.81	.73	.79	.54	.45	.68	.60	.46	.56	.57	.38
Pipe drain: 8-in.	2,800 lin. ft..	.25	.28	.18	.25	.19	.19	.16	.24	.20	.20	.22
10-in.	1,700 " "	.31	.35	.24	.30	.27	.33	.24	.39	.25	.30	.30
12-in.	1,600 " "	.37	.46	.32	.42	.35	.35	.30	.49	.32	.35	.40
15-in.	1,900 " "	.49	.66	.42	.55	.51	.45	.47	.59	.45	.50	.50
18-in.	1,600 " "	.59	1.06	.58	.65	.80	.65	.67	.79	.60	1.00	.65
Masonry: Brick.	250 cu. yds.	17.25	13.00	13.00	13.10	13.00	11.00	12.75	13.00	13.50	12.50	11.50
Rubble	350 " "	6.90	6.00	7.50	6.50	6.00	6.00	4.75	9.00	7.00	4.50	4.00
Edgestones	2,100 lin. ft..	1.43	1.50	1.15	.94	1.00	1.00	.95	1.20	1.00	1.10	2.00
Surfacing: Loam	13,000 cu. yds.	.35	.40	.35	.35	.55	.29	.15	.28	.36	.25	.35
Gravel walk ..	1,800 " "	1.50	1.06	1.10	1.60	.90	.82	.90	.83	.72	1.00	1.50
Broken stone..	8,000 tons....	2.11	1.75	1.65	2.48	1.86	1.45	1.90	2.10	1.45	1.50	1.35
Loam furnished.	7,000 cu. yds.	.86	.90	.75	.80	.80	.78	1.00	.77	1.00	1.00	.55
Alternative bid on above		2.66[1]	....	....	2.28[2]	1.50[3]	....	1.55[3]	....	....	....	....
Gravel for r'd'bd	6,000 cu. yds.	1.15	1.06	1.05	1.00	1.79	1.25	.90	1.10	.85	1.00	1.50
Total		$106,324	$97,933	$93,000	$86,366	$85,640	$83,964	$81,226	$80,628	$79,733	$79,690	$69,221
Total using alternative bids		$110,725	.....	.....	$84,766	$82,760	......	$78,426	.....	.....	.....	.....

[1]Salem stone. [2]Conglomerate. [3]Local stone.

CEMENT, STONE, ETC.—New York, N. Y.—The engineers' department of the U. S. A., Army Bldg., Whitehall St., New York, received the following bids March 11, 1899, for furnishing (1) 1,000 bbls. of American Rosendale cement, (2) 5,500 cu. yds. of broken stone, and (3) 4,000 yds. of first quality of building sand: John A. Bouker, (2) (trap), 85 cts.; Wm. J. McGerr, (3) 43.9 cts.; Commercial Wood & Cement Co., (1) 85 cts.; Newark & Rosendale Cement Co., (1) $1.02; Lawrenceville Cement Co., (1) $1.02½; Hiram Snyder & Co., (1) $1.02; Calvin Tomkins, (1) 97.9 cts.; (2) (limestone) 79.4 cts.; Lawrence Cement Co., (1) $1.05; Jacob E. Conklin, (2) (trap), 82 cts.; Chas. Frey, Jr., (2) (limestone) 95 cts.; (trap) $1.05; E. K. Chamberlain, (2) (limestone) 88½ cts.; J. S. Lane & Son, (2) (trap) 88.9 cts.; Harry Goodwin, (3) 32 cts.; O'Brien Bros., (3) 44½ cts.; Phoenix Towing & Transportat'n Co., (3) 34.9 cts.

STREET LIGHTING.—Minneapolis, Minn.—We are informed that the following bids were received by the council Feb. 24, 1899, for street lighting for one year: Minneapolis Gas Light Go., gas at $1 per 1,000 cu. ft. (burners to use 5 cu. ft. per hour and to be equipped with Wilder governors), cleaning and lighting, $4 a post a year. Minneapolis General Electric Co., 150 all-night 2,000-c. p. lamps at $112 a year; 600 moon, $96 a year, or 164 all-night 2,000 c. p. at 3.1 cts. an hour to burn 3,500 hours; 237 moon, at 4 cts. an hour to burn 2,250 hours. Welsbach Street Lighting Co. of America, Chicago, (1) being for the city to pay for gas, and (2) for gas furnished: 100 lamps, all-night, 60-c. p., (1) $18.00, (2) $29.50 a year; 100 lamps moon, 60-c. p., (1) $18.00, (2) $25.25; or, all lamps in city at $25. Naphtha lamps at same prices. L. A. Lydiard, Cy. Clk.

WHARF.—Rock Point, Md.—We are informed that the following bids were received by Col. Peter C. Hains, U.S. Engr., March 8 for constructing a wharf at Rock Point, as advertised in Engineering News; the work is to commence within 10 days after award of contract, and is to be completed by May 15, 1899:

Bidder.	Y. pine floorings, 124,000 ft. B.M. cts.	Oak piles, 5,500 lin. ft. cts.	Bolts, &c., 4,300 lbs. cts.	Total.
Sanford & Brooks Co.[1]	3.7	27	3½	$6,224
T. B. Jones & Co.[1]	3.19	25	3½	5,481
Wilkens Kuemmerle[2]	7	38	5	10,985
Geo. F. Mardin[1]	3.38	24¾	5	5,767
Delaware Constr'n Co.[3]	3.2	29	4	5,735
Frank Pidgeon, New York.	4.5	47	5	8,380
W. H. Jenks, New York..	4.9	50	3	8,955

[1]Baltimore, Md. [2]Philadelphia, Pa. [3]Wilmington, Del.

CEMENT.—Washington, D. C.—We are informed that the district commissioners received the following bids March 11, 1899, for furnishing about 20,000 bbls. of Portland cement, as advertised in Engineering News: Charles M. Hall, New York, $2.00 a bbl., Stell brand; J. G. Waters & Son, Washington, $2.14, Star; Walter T. Bradley & Co., Philadelphia, $2.17, Royal; Cranford Paving Co., Washington, $2.27, Vulcanite; Atlas Cement Co., New York, $2.32, Atlas.

PORTLAND CEMENT.—New York, N. Y.—We are informed that the following bids were received March 10, 1899, by Maj. H. M. Adams, U. S. Engr., Army Bldg., New York, for furnishing 12,500 bbls. of American Portland cement; Hiram Snyder, 229 Broadway, $2.03 a bbl., Lehigh brand; Atlas Cement Co., 143 Liberty St., $1.97, Atlas brand.

WATER PIPE.—Pittsfield, Mass.—M. J. Drummond & Co., 192 Broadway, New York, have been awarded the contract for furnishing 225 tons of cast-iron water pipe at $21.80 a long ton.

ROADWORK.—Woodbury, N. J.—Wm. N. Carter, Engr., informs us that the following bids were received March 11, 1899, for building a macadam road, as advertised in Engineering News; that board of freeholders will meet on March 18, when, no doubt, the contract will be awarded:

Bidder.	Excavation, 2,950 cu. yds.	Macadam, 8 ins. deep, 12,077yds.	Underdr'ns, 800 lin. ft.	Total.
McManus Const'n Co., Philadelphia.	$0.18	$0.69	$0.10	$8,944
H. J. Mullen & Co., New York....	.15	.58	.09	7,519
J. R. Shanley, Philadelphia.......	.20	.50	.10	6,500
Dennis Roe, Trenton, N. J.........	.25	.67	.12	8,725
Geo. Banchoff, Lambertville, N.J..	.22	.58	.10	7,599

STREET SIGNS.—Grand Rapids, Mich.—Benham Bros., Chicago, have been awarded the contract for furnishing enamel iron street signs at 40 cts. each for signs on the buildings at intersection of streets, 85 cts. for post signs with posts, and $1.88 for signs and posts set in cement.

SAND.—Buffalo, N. Y.—The following bids were received last week for furnishing sand for the repairs of stone pavements during the year: Wm. E. Carroll, 65 cts. a cu. yd. on boat at Church St. yard; 85 cts. on cars, East Buffalo; 70 cts. on cars, Black Rock; J. H. Carroll, 75 and 80 cts. on cars; Point Abino Sand Co., 75, 80 and 90 cts., respectively.

VALVES.—Minneapolis, Minn.—The following bids were received March 11, 1899, for furnishing ten 16-in. water valves f. o. b. cars Minneapolis: R. D. Wood & Co., Philadelphia, $77.00 each; Rensselaer Mfg. Co., Troy, N. Y., $67.50; South Park Foundry & Machine Co., St. Paul, $59.50; Michigan Brass & Iron Works, Detroit, $58.85; Eddy Valve Co., Waterford, N. Y. (Fapeo seat), $61.00; (parallel seat), $50.00.

GARBAGE DISPOSAL.—New York, N. Y.—Thos. F. Galwey, Contract Clk. Dept. of Street Cleaning, informs us that the following bids were received March 10, 1899, for garbage disposal in the boroughs of Queens and Richmond: The Dixon Garbage Crematory Co., Toledo, O., 97 cts. a ton for all the wards in both boroughs; Zephaniah F. Magill, 2001 5th Ave., Troy, N. Y., 45 cts. for all the wards of both boroughs; James Cameron, Port Richmond, 68 cts. for 1st and 3d wards of Borough of Richmond, 72 cts., 2d and 4th wards, and $1.00 for 5th ward of Richmond. The amounts of refuse to be disposed of yearly in Queens and Richmond are estimated by the street cleaning department as follows: Queens, 1st Ward, 31,200 tons; 2d Ward, 9,700 tons; 3d Ward, 15,300 tons; 4th Ward, 12,000 tons; 5th Ward, 12,400 tons. Richmond—Castleton, 12,600 tons; Middletown, 8,000 tons; Northfield, 8,000 tons; Southfield, 5,000 tons; Westfield, 5,600 tons. Making a yearly total of 119,800 tons of 2,000 lbs. each. Mr. Magill's contract price for the whole term will reach about $100,000. The disposition is to be made by cremation.

BRICK PAVING.—Atchison, Kan.—Fred. Giddings, Cy. Engr., writes us that the following contract for brick paving, grading, etc., in Division St., from 2d to 6th Sts., was let March 6, 1899, to Thos Beattie, of Atchison: 2,700 cu. yds. grading, 17½ cts.; 3,193 lin. ft. curbing, 35 cts.; 6,140 sq. yds. paving, 74 cts.; 2,700 lbs. cast-iron bridge plates, 1½ cts.; 1 catch basin, $10; 2,060 sq. ft. brick sidewalk, 5 cts.; 480 ft. B. M., white oak plank, 35 cts. Total, $6,302. Curbing to be of Portland cement concrete, 5½ x 20 ins.; paving to be one course of vitrified brick on 3-in. sand foundation; Atchison brick.

BRICK PAVING.—Easton, Pa.—The following contracts were let March 9, 1899, for brick paving on 6-in. concrete foundation: East Washington St., between 3d and 4th Sts., 1,185 yds., M. Miles, Easton, Porter wire-cut brick, $1.93 a sq. yd.; the other bids on this brick were as follows: T. M. Lesher & Son, $1.97; E. H. Post, $1.95; E. P. Spalding, $1.99; Erbeck Bros., $2.02. Mr. Miles has also the contract for 2,000 yds. in West Washington St., between 12th and 13th Sts., at $1.93; Northampton St., between 5th and 6th Sts., 2,594 sq. yds.; T. M. Lesher & Son, Easton, $2.01 for Porter special lug brick; the other bids on this brick were as follows: M. Miles, $2.12; E. H. Post, $2.00; F. P. Spalding, $2.13; Erbeck Bros., $2.15. H. R. Fehr, Cy. Engr.

WATER GATES.—Detroit, Mich.—The following bids were received by the water board March 1, 1899, for furnishing water meters for the year: Michigan Brass & Iron Works, 6-in., $12.75; 8-in., $20.75; Co-operative Foundry Co., $14 and $18; Murdock Valve Co., 118 Congress St., Detroit (accepted), $9.75 and $13.50; Roe Stevens, $13 and $21. The estimate for the year is 50 8-in. and 150 6-in. gates.

SEWERS.—Norfolk, Va.—The following bids were received March 9 by C. J. Jones, Pres. Local Bd. of Public Improvements, for constructing sewers in Brambleton Ward, as advertised in Engineering News:

Bids Received at Norfolk, Va., March 9, 1899, for Constructing Sewers in Brambleton Ward.

Quantities.		Guild & Co., Chattanooga, Tenn.	W. H. Fritchman & Co., New York, N.Y.	McElvain-Unkerfer Co., Pittsburg, Pa.	B. J. Coyle, Washington, D.C.	N. B. Abbott, Columbus, O.
24-in. cast-iron outfall pipe	400 lin. ft.	$9.50	$9.18	$9.25	$11.40	$10.50
24-in. " " " under R.R.	200 " "	6.60	5.75	5.50	6.40	6.25
10-in. " discharge pipe	1,100 " "	1.00	1.52	2.00	2.75	3.00
10-in. " pipe along canal	270 " "	1.50	2.00	2.25	3.40	3.30
24-in. terra cotta Y's and tile	3,600 " "	1.90	2.33	2.30	3.20	2.50
20-in. " " " " "	1,500 " "	1.65	1.31	1.75	2.60	2.06
18-in. " " " " "	1,100 " "	1.60	1.34	2.00	2.15	2.03
10-in. " " " " "	1,000 " "	.77	1.05	.94	1.10	1.25
8-in. " " " " "	42,000 " "	.65	.603	.75	.96	1.16
4-in. " " house connections	50,000 " "	.16	.168	.23	.36	.32
Manholes complete	71 each	40.00	62.00	42.00	32.00	90.00
Flushtanks complete	62 "	60.00	80.00	60.00	62.00	150.00
Wells complete	3 "	2,000.00	2,586.00	1,000.00	3,915.00	3,300.00
Total		$66,330	$71,634	$74,355	$104.849	$115,524

TRANSPORTATION.—New York, N. Y.—The quartermaster's department, Army Bldg., received the following bids March 11 for transportion of freight and troops: Moving 8 12-in. mortar carriages from Providence to Galveston, Great Southern Dispatch, 41.4 cts. a 100 lbs.; Pendleton Bros., $1.50; the following made the same figure, 58.03 cts. a 100 lbs.—Atchison, Topeka & Santa Fe, New York, New Haven & Hartford Atlantic Coast Dispatch, Pennsylvania R. R., Central States Dispatch, Missouri, Kansas & Texas, Seaboard Air Line and Southern Pacific Ry. The Merritt-Chapman Wrecking Co. bid the total of $4,975. Removing mortars from Highland Beach to Pensacola, Fla.: Pendleton Bros., $1.30 a 100 lbs.; the Merritt-Chapman Wrecking Co., $2,500. The following made the same rate, 46.6 cts.: Seaboard Air Line, Pennsylvania R. R., Preston, Butler, Philadelphia, and Atlantic Coast Dispatch. Transportation of several companies of the 6th Artillery and the 13th Infantry from barracks in New York state to Ogden and San Francisco: Lehigh Valley R. R., New York to San Francisco, $61.11 for officers and men; Delaware, Lackawanna & Western, to Ogden, $41 for officers and $36.40 for enlisted men and $31.81 for adults of the families of troops; by New York, Ontario & Western, $39.50 for officers, $34.80 for men, $30.37 for adults of families and $15.19 for children; Chesapeake & Ohio R. R., to Ogden, $18; to San Francisco, $41 and $36.40 for officers and men, respectively; Baltimore & Ohio R. R., to Ogden, $36.25; Pennsylvania R. R., $45.58 to San Francisco; West Shore R. R., to Ogden, $19; New York Central & Hudson River R. R., to Ogden, $18.70, families $41.70, officers to San Francisco $38.96, families $33.96; Norfolk & Western, to San Francisco, $28 to officers, men and families; Delaware & Hudson Canal Co., $45.10, families $36.10.

ENGINEERING MATERIAL PRICES.

TRACK MATERIALS—
- New York—Angle bars, 1.20 cts. to 1.25 cts.; spikes, 1.55 cts. to 1.60 cts.; track bolts, 1.80 cts. to 1.90 cts.
- Chicago—Angle bars, 1.25 cts. to 1.35 cts.; spikes, 1.65 cts. to 1.70 cts.; track bolts, hexagonal, 2.30 cts. to 2.35 cts.; square, $2.10 cts. to 2.15 cts.

RAILS, STEEL—
- New York, new, $23.00 to $24.00.
- Chicago, new, $23.00 to $25.00; old iron, $16.00 to $16.50; steel, $9.50 to $11.00.
- Pittsburg, new, $22.00 to $24.00; old iron, $15.75 to $16.75; old steel, $13.00 to $13.75.

STRUCTURAL STEEL—
- New York—Beams, 1.55 cts. to 1.65 cts.; channels, 1.55 cts. to 1.65 cts.; tees, 1.55 cts. to 1.65 cts.; angles, 1.45 cts. to 1.50 cts.; rivets, 1.75 cts. to 1.85 cts.
- Chicago—Beams, 1.55 cts. to 1.70 cts.; channels, 1.55 cts. to 1.70 cts.; tees, 1.60 cts. to 1.70 cts.; angles, 1.45 cts. to 1.50 cts.
- Pittsburg—Beams, 1.40 cts. to 1.50 cts.; channels, 1.40 cts. to 1.50 cts.; tees, 1.45 cts.; angles, 1.30 cts.; zees, 1.40 cts.

PLATES AND SHEETS—
- New York—Universal mill plates, 1.85 cts. to 1.95 cts.; tank, 2.00 to 2.05 cts.; shell, 2.20 cts. to 2.25 cts.; flange, 2.30 cts. to 2.35 cts.; firebox, 2.40 cts. to 2.50 cts.
- Chicago—Universal mill plates, 1.80 cts.; tank, 1.65 cts. to 1.70 cts.; shell, 2.00 cts. to 2.10 cts.; flange, 1.75 cts. to 1.90 cts.; firebox, 2.25 cts. to 4.00 cts.; sheets, 2.25 cts. and upwards.
- Pittsburg—Tank, 1.60 cts. to 1.75 cts.; shell, 1.90 cts.; flange, 1.80 cts.; firebox, 2.00 cts. and upwards; sheets, 2.30 cts. to 2.45 cts.

MERCHANT STEEL—
- Machinery per lb., 1.95 cts. to 2.05 cts.
- Tool, per lb., 5.50 cts. to 7 cts.

IRON—
- Pig iron:
  - New York—No. 1, $14.75 to $15.25; No. 2, $13.50 to $14.00.
  - Chicago—No. 1, $14.50 to $15.00; No. 2, $14.00 to $14.50.
  - Pittsburg—No. 1, $14.00 to $14.25; No. 2, $13.25 to $13.50.
- Bar iron:
  - New York, common, 1.15 cts. to 1. 20 cts.; refined, 1.35 cts. to 1.40 cts.
- Sheets:
  - Common, American, per lb., 2.15 cts. to 2.85 cts.
  - Russia, per lb., 10½ cts. to 11.00 cts.

LUMBER—
- New York:
  - Hemlock timber, 20 ft. and under, per M, $12.00 to $12.50.
  - Piling, Eastern spruce, 35 to 40 ft., 30 to 40% 12-in. butts, 4.00 cts. to 4.25 cts.
  - Spruce, special cargoes, per M, $15.00 to $17.50.
  - Yellow pine, random cargoes, $15.50 to $17.00.
  - North Carolina pine, $2.25 to $2.40 advance over Norfolk rates.
- San Francisco:
  - Oregon pine, per M, $15.50 to $18.00.
  - Redwood, per M, $14.00 to $20.00.
  - Redwood tank stock, up to 10 ft., $18.00.

GENERAL MATERIALS—
- Lead, New York, 4.40 cts. to 4.45 cts.
- Nails, Pittsburg, 1.85 cts.
- Solder, per lb., 8½ cts. to 13 cts.
- Spelter, per lb., 6.15 cts. to 6.25 cts.
- Copper ingots, 17.62 cts. to 17.75 cts.
- Granite, rough, New York, cu. ft., 40 cts. to 50 cts.
- Limestone, New York, cu. ft., 70 cts. to 80 cts.
- Ohio freestone, New York, cu. ft., 85 cts. to 90 cts.
- Slate, Penn., block, per square, $4.00 to $5.00.
- White lead, American, per lb., 5½ cts. to 6 cts.
- Lime, common state, per bbl., 75 cts.

INDUSTRIAL NOTES.

THE BROOKS LOCOMOTIVE WORKS, Dunkirk, N. Y., has an order for 20 locomotives for the Illinois Central R. R.

THE CLAYTON AIR COMPRESSOR WORKS, New York, is reported about to ship 10 compressors to Germany.

THE PITTSBURG METER CO., Pittsburg, Pa., has a contract from the city of St. Paul to furnish that city with all the water meters used there during 1899.

THE BALDWIN LOCOMOTIVE WORKS, Philadelphia, is said to have orders on hand for 600 locomotives, of which at least 150 are for foreign countries.

THE BABCOCK & WILCOX CO., New York, has recently shipped several of its water tube boilers to Mexico for mining purposes, and to Callao, Peru, for the textile industry.

THE GOODWIN CAR CO., 96 5th Ave., New York is drawing plans for 1,000 cars for a coal and iron company. The cars will each have 80,000 lbs. capacity and will be operated by a patent hand-dumping apparatus; delivery to be in 90 days.

JOSEPH G. FALCON, of Evanston, Ill., has been awarded the contract for making repairs on the water-works intake pipe at Kenilworth, Ill. Mr. Falcon has for many years made a specialty of putting in new and repairing old water-works intakes along the Lakes.

THE NATIONAL TUBE WORKS, Pittsburg, has received an order for $1,000,000 worth of 28-in. pipe to be sent to Johannesburg, South Africa. The company is said to be at work now on a contract for 75 miles of 10-in. pipe for the Indiana Natural Gas Co., and to be figuring with the same company for another large order.

THE DETROIT GRAPHITE MFG. CO., Detroit, Mich., reports that it is now building a large 5-story addition to its factory, which has been made necessary to keep pace with the increased demand for its paint. The company has issued an illustrated book showing some of the more important structures on which its paint is used.

THE SIEGRIST LUBRICATOR CO., St. Louis, reports that its automatic oiling system, after 8 months' use on the machinery in the packing house of Armour & Co., South Omaha, Neb., has been specified for use on a new ice machine the company has just purchased from the Fred W. Wolf Co., of Chicago, and also on two new engines.

THE MAX F. ABBE MFG. Co., 26 Cortlandt St., New York, has succeeded to the business heretofore conducted by Mr. Max F. Abbe at the same address. The company designs and manufactures crushing and pulverizing machinery for all purposes. Shipments have recently been made to Mexico and South America, and the company reports inquiries from Central American states. Pres., Max F. Abbe, M. E.; Treas., Frank A. Cave.

THE C. H. STARKE DREDGE & DOCK CO., is announced with a capital stock of $350,000, as a consolidation of eight dredge and seven tug companies, including the C. H. Starke Dredge Co., Milwaukee; Lake Michigan Dredge & Dock Co., Green Bay; Sheboygan Dredge & Dock Co., Sheboygan; Dixon Dredge Co., Racine; J. E. Hathaway & Co., Milwaukee. The officers of the new company are: Pres., Conrad Neiderman, Milwaukee; Vice-Pres., Frederick M. Knapp, Racine; Supt. of Dredges, S. O. Dixon, Racine; Treas., Adolph Bewes, Milwaukee; Secy., C. Trinhorn, Milwaukee.

THE BOSTON BELTING CO., Boston, Mass., has furnished the rubber belting used as carriers for grain in the new elevator built for the Fitchburg R. R., at Charlestown, Mass. The contractor for the elevator was Mr. James L. Record, of Minneapolis. The belting furnished comprised about 7,500 ft. of 36-in. 4-ply, 1,600 ft. 38-in. 4-ply, and 4,800 ft. of 22-in. 6-ply, besides a quantity of narrower belts. The total weight was upwards of 35 tons. The longest 36-in. 4-ply belt measured 1,700 ft., and several others of the same width were more than 1,000 ft. long each. Each of the 36-in. belts carries about 8 000 bushels of grain an hour. The belting in the original elevator, built in 1881-82, and which was destroyed by fire in February, 1898, was supplied by the Boston Belting Co. Some of the original belts made in 1882, which were not destroyed by fire, are claimed to be in first-class condition and to be doing good service in the present elevator.

NEW COMPANIES.—Hinlota Union Tunnel Co., Washington, D. C.; $5,000,000, commencing with $1,000; J. M. Wiley, H. O. Baker, D. Leston.

Binghamton Gas Engine Co., Binghamton, N. Y.; $20,000; M. L. Deyo, R. H. Deyo, H. A. Niles, D. H. Carver, J. T. Deyo and W. B. Carver, of Binghamton, N. Y.

Hancock Equipment Co., Portland, Me.; $25,000; electrical machinery; C. M. Reed, C. A. Cotton, J. A. Desmond.

Uvalde Asphalt Paving Co., New York; $200,000, commencing with $600; general contracting and engineering; J. D. Marston, Brooklyn; R. T. Rokeby, C. L. Spencer.

Franklin Telephone & Telegraph Co.; $12,000; F. E. Kendall, M. B. Miller, C. F. Wicker, J. Merkel, F. H. Jackson, Saranac Lake, Franklin county, N. Y.

Home Telephone Co., Rochester, N. Y.; $150,000; to operate a telephone system in Rochester and elsewhere in Monroe county; Frederick Cooke; George W. Archer, H. Wheeler Davis and others, of Rochester.

Stanly County Telephone Co.; $5,000; to construct a telephone line from New London, in Stanly county, to Salisbury, N. C.; Wm. M. Ivey, Richard Eames, Jr.

Star Telephone Co., Ashland, O.; $50,000.

Syracuse Stock & Telegraph Co., Syracuse, N. Y.; $5,000, all paid in; J. F. Oline, Syracuse; J. R. Consideri.

Lakeside Telegraph & Telephone Co., Princeton, Me.; $10,000, commencing with $1,000; to operate telephone and telegraph lines; Lemuel Brehant, M. J. Brehant.

Trenton Telephone Co., Trenton, Mo.; $8,000; W. W. Bain, J. B. Wright, E. M. Harber and others.

Auto-Electric Co.; $1,000,000; Timothy M. Cheeseman, Garrison, N. Y.; Nelson Hiss, New York; Duncan T. McLaren, East Orange, N. J.

D'Amour & Littledale Machine Co., New York; $20,000, commencing with $15,000; to manufacture machinery; Edward D'Amour, W. F. Littledale, Arthur Terry.

Toledo Steam & Air Motor Co., Toledo, O.; $50,000; to manufacture engines and motors; C. E. Sutton, M. S. Franz, A. H. Smith, Eli H. Stark, B. F. Martin.

Marting Iron & Steel Co., Ironton, O.; $200,000; to manufacture and deal in iron and steel: H. A. Marting, I. D. Foster, A. H. Mittendorf, C. H. Ketter, A. R. Johnson and E. J. Bird, Jr.

Atlantic Cement Co., 259 Washington St., Jersey City, N. J.; $300,000; to manufacture Portland cement; Chas. H. Detwiller, Henry T. Lilliendahl, Robert S. Hudspeth.

Atlantic Construction Co., Boston, Mass.; $4,000, commencing with $40; general construction work; R. H. Sawyer, J. S. Nichols, C. E. Dibber, H. W. Burgett.

United States, Cuba & Porto Rico Investment & Development Co., Martinsburg, W. Va.; $500,000, commencing with $50; J. B. Gordon, A. H. Hovey, P. H. Perry.

Rival Saw Mfg. Co. of New Jersey, 317 Market St., Camden, N. J.; $50,000; to manufacture saws; Wm. F. DeHarendt, 331 Arch St., Camden; C. N. Turner, 309 West 116th St., New York; John J. Von Julay, Charles L. R. Campbell.

Copper Mining Co., Summit, N. J.; $3,000,000; to operate in Yavapai, Ariz., and develop the Scheurmar-Duke group of mountains; William Z. Larned, Summit; Franklin A. Burke, Colorado Springs, Col.; John A. Penniman.

Oliver Construction Co., Langley, S. C.; $25,000; to construct water works, sewers, etc.; W. J. Oliver, R. H. Wallace, C. B. Donaghy and others.

James P. McDonald Co., New York; $200,000, commencing with $50; to construct railways, wharves, docks, piers, etc.; Charles Engel, John French and Ernest Atkinson, of New York; Edward W. Starr, Brooklyn, N. Y.; Thomas Holden, Jr., White Plains, N. Y.

Mora Copper Co, New York; $5,000,000, commencing with $100; to operate mines in Mora county, N. Mex.; Robert Sherwood and Henry Crimmins, New York; Abel W. Tennant, Taos, N. Mex.; Charles B. Orvis, Chicago; William A. Weed, Stamford, Conn.

Rochester Gas Engine Co., Rochester, N. Y.; $25,000; John J. Leary, F. F. Wells and C. M. Shaw, Rochester.

New York & Nova Scotia Coal & Transportation Co., New York; $500,000, commencing with $500; to purchase and operate coal and mineral lands on Cape Breton Island, build wharves and docks; Philip W. Roos, Hoboken, N. J.; Charles Muehlenbeck and Julius M. Ferguson, New York; William R. Bergholz, New Rochelle, N. Y.; H. T. Booraem, Newark, N. J.

Boston Transit Co., Boston, Mass.; $100,000; common-carriers using vehicles propelled by gasoline, electricity, compressed air, etc.; B. D. Hyde, H. N. Rice, A. A. Pope.

Sanitary Refrigerator Co, Belding, Mich.; $100,000, commencing with $10,000; to manufacture refrigerators; E. L. Kendall, E. C. Cummings, D. F. Elkston.

Rahn & Wagner Co., Cincinnati, O.; $30,000; to manufacture and sell machines and tools; Charles G. Mayer, W. H. Carpenter, John Rahn, Jr., A. C. Rahn and Charles J. Hunt.

Hillsboro Home Telephone Co., Hillsboro, O.; $15,000; Robert M. Ditty, Irvin McDowell Smith, George W. Barrere, J. F. Wilson and J. E. Carroll.

London Telephone Co., London, O.; $30,000; E. L. Barber and others.

Winchester, Ford & Richmond Telephone Co., Winchester, Ky.; to build a telephone line from Winchester to Richmond, via Ford; S. T. Prewitt, David Prewitt.

Sherman Telephone Co., Sherman, N. Y.; $1,000; to maintain a telephone line through Sherman, Westfield, Mayville and Ripley; Albert J. Arnold, Chas. H. Corbett.

Black Rock Smelting Co. of Arizona, New York; $1,200,000, commencing with $100; Maurice Willis and Norton Chase, New York; Wm. R. Whitehead and Peter K. Clark, Trenton, N. J.; Daniel J. Francis and Charles H. Mosher.

North American Air Motor Co., New York; $1,000,000, commencing with $50; to manufacture and deal in machinery to be operated by compressed air; Lucius T. Gibbs, Charles Engel and John French, New York; Thos. Holden, Jr., White Plains, N. Y.; De Witt H. Lyon, Port Chester, N. Y.

American Zinc, Lead & Smelting Co., Portland, Me.; $500,000; to conduct a general mining business; Fred'k Hale, Pres.; Harry P. Sweetsir, Treas., both of Portland.

Standard Mining & Reduction Co., Portland, Me.; $500,000; Clark B. Eastman, Pres., Cumberland Mills, Me.; John H. Hill, Treas., Portland.

National Steel Co., Trenton, N. J.; $100,000; to mine, manufacture and deal in iron and steel; William Fillingham and Edward B. Hawkins, of New York; Oscar L. Lefferts, East Orange, N. J.

Duquoin Telephone Co., Duquoin, Ill.; $16,000; R. A. Youngblood, F. H. Stamper and H. H. Onstott.

Winchesterford & Richmond Telephone Co., Pine Grove, Ky.; $600; G. T. Prewitt, D. Prewitt, D. L. Pendleton.

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